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AUTOMATION APPLICATIONS IN AN ADVANCED AIR TRAFFIC MANAGEMENT SYSTEM

Volume IID: Functional Analysis of Air Traffic Management (Concluded)

F. Mertes
L. Jenney

AUGUST 1974

FINAL REPORT

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16. Abstract

The technical report presents a detailed description of the strategic control functional objectives, followed by a presentation of the basic strategic control algorithm and how it evolved. Contained in this discussion are the results of analyses that constrain the design and operation of the strategic control algorithm and a description of the model developed to simulate strategic terminal area operation in order to develop and evaluate the algorithm. The data processing sizing requirements and the application of the strategic control algorithm in terms of time periods and airspace to be served are presented with an overall summary of the benefits of the system. Finally, a proposed research, development, test, and evaluation plan is detailed for developing the strategic control system capabilities for implementation as the primary air traffic management technique for high-density air routes and terminal areas.

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PREFACE

This is the last of four books which together contain a detailed function analysis of air traffic management. The four books represent Volume II of a five-volume report describing work performed during Phase B of the Automation Applications Study for an Advanced Air Traffic Management System sponsored by the Transportation Systems Center of the Department of Transportation.

The first book describes the methodology employed and contains a description of the 17 generic air traffic management functions. It contains also detailed descriptions of the subfunctions and tasks of Functions 1-4. The second book contains detailed descriptions of the subfunctions and tasks of Functions 5-8. The third book contains similar material for Functions 9-13 and the final book contains similar material for Functions 12-17.

Preface and reference material for the entire Volume can be found in the front of Volume IIA. The Table of Contents, List of Figures and List of Tables for this book follows.

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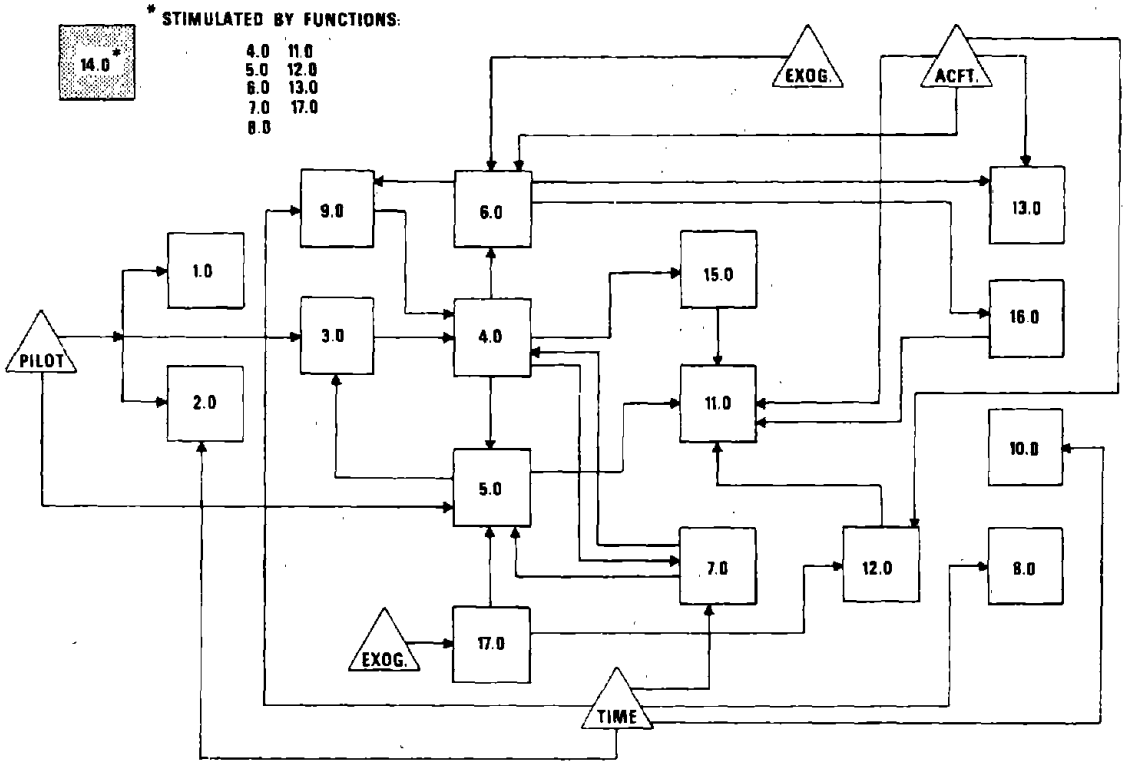
FUNCTION 14.0: MAINTAIN SYSTEM RECORDS



1.0: PROVIDE FLIGHT PLANNING INFORMATION
2.0: CONTROL TRAFFIC FLOW
3.0: PREPARE FLIGHT PLAN
4.0: PROCESS FLIGHT PLAN
5.0: ISSUE CLEARANCES AND CLEARANCE CHANGES
6.0: MONITOR AIRCRAFT PROGRESS
7.0: MAINTAIN CONFORMANCE WITH FLIGHT PLAN
8.0: ASSURE SEPARATION OF AIRCRAFT
9.0: CONTROL SPACING OF AIRCRAFT
10.0: PROVIDE AIRBORNE, LANDING AND GROUND NAVIGATION CAPABILITY
11.0: PROVIDE AIRCRAFT GUIDANCE
12.0: ISSUE FLIGHT ADVISORIES AND INSTRUCTIONS
13.0: HANDOFF
14.0: MAINTAIN SYSTEM RECORDS
15.0: PROVIDE ANCILLARY AND SPECIAL SERVICES
16.0: PROVIDE EMERGENCY SERVICES
17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION

14.0 MAINTAIN SYSTEM RECORDS

14.1 Prepare Operational Reports

- 14.1.1 Detect information requiring operational report
- 14.1.2 Retrieve applicable operational report format
- 14.1.3 Enter detected information
- 14.1.4 Determine necessity for additional information
- 14.1.5 Retrieve additional information

14.2 Compile and Store System Records

- 14.2.1 Classify data elements
- 14.2.2 Assign appropriate identifiers
- 14.2.3 Determine if data transform/reformat is required
- 14.2.4 Transform/reformat data element
- 14.2.5 Enter data element into storage

14.3 Prepare and Maintain Statistical and Special Reports

- 14.3.1 Determine if report is available
- 14.3.2 Retrieve format
- 14.3.3 Develop format
- 14.3.4 Retrieve required data
- 14.3.5 Analyze data
- 14.3.6 Compile report

SUBFUNCTION DESCRIPTION

FILE: 14.1
SUBFUNCTION: Prepare Operational Reports
FUNCTION: Maintain System Records

OUTPUTS:

(1) Operational report not required

(2) Completed operational report

(3) Request for additional information

DESCRIPTION:

Purpose: To collect, format, and file information for operational reports

Stimulus: Event-stimulated by any of the listed inputs except "rules and procedures"

Tasks:

(1) Detect information requiring operational report

(2) Retrieve applicable operational report format

(3) Enter detected information

(4) Determine necessity for additional information

(5) Retrieve additional information

Critical Performance Parameters:

Validity

Allocation Sensitivities:

INPUTS:

(1) From pilot or other exogenous source:

- Operational report information
- Additional required information

(2) From Subfunction 17.2, Update Rules and Procedures Information:

- Stored data base items (rules and procedures)

(3) From Subfunction 5.3, Compile and Issue Clearance:

- Transmitted clearance

(4) From Subfunction 6.2, Compile Aircraft's Actual Time-Position Profile:

- Actual time-position profile

(5) From Subfunction 6.4, Determine Aircraft Capability and Status:

- Current aircraft status

(6) From Subfunction 7.4, Determine Appropriate Resolution of Deviations:

- Present out-of-tolerance deviations from flight plans

(7) From Subfunction 8.1, Predict Conflicts:

- High imminence conflict pairs

(8) From Subfunction 11.5, Compile and Transmit Guidance Instructions:

- Not responding as commanded, retransmit

TASK DESCRIPTION

FILE: 14.1.1
TASK: Detect Information Requiring Operational Report
SUBFUNCTION: Prepare Operational Reports
FUNCTION: Maintain System Records

OUTPUTS: (1) Operational report required

(2) Operational report not required

DESCRIPTION:

Purpose: To detect information requiring documentation in the form of an operational report. This includes information regarding violations, operational hazards, maintenance reliability (new aircraft types), hijacks, accidents, UFO incidents, CURVIS, near-misses, stolen aircraft, ALNOTs, INREQs, bomb threats, and other information of the same general nature

Stimulus: Event-stimulated by any of the listed inputs except for "rules and procedures"

Decisions and Actions:

(1) Receive information

(2) Decide on the basis of rules and procedures if operational report is required

(3) Enter information

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Monitoring:

- Surveillance

(2) Decision making:

- Induction/inference

(3) Information processing:

- Encoding/recoding

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From exogenous source:

- Operational report information

(2) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

(3) From Task 5.3.2, Transmit Clearance Message:

- Transmitted clearance

(4) From Task 6.2.2, Update Aircraft Actual Time-Position Profile:

- Actual time-position profile

(5) From Task 6.4.5, Update Aircraft Status:

- Current aircraft status

(6) From Task 7.4.1, Compare Deviations with Tolerances:

- Present out-of-tolerance deviations from flight plan

(7) From Task 8.1.6, Determine Conflict Imminence for Each Pair:

- High imminence conflict pairs

(8) From Task 11.5.3, Assess Aircraft Response:

- Not responding as commanded, retransmit

TASK DESCRIPTION

FILE: 14.1.2
TASK: Retrieve Applicable Operational Report Format
SUBFUNCTION: Prepare Operational Reports
FUNCTION: Maintain System Records

OUTPUTS: Applicable format

DESCRIPTION:

Purpose: To obtain correct format for operational report

Stimulus: Event-stimulated by determination that an operational report is required (Task 14.1.1)

Decisions and Actions:

(1) Determine which format is required

(2) Retrieve that format

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Storing and retrieving information:

- Selective retrieval/recall

(2) Interpreting:

- Association

(3) Decision making:

- Selection choice

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.1.1, Detect Information Requiring Operational Report:

- Operational report required

(2) From exogenous source:

- Operational report information
- Additional required information

(3) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

(4) From Task 5.3.2, Transmit Clearance Message:

- Transmitted clearance

(5) From Task 6.2.2, Update Aircraft Actual Time-Position Profile:

- Actual time-position profile

(6) From Task 6.4.5, Update Aircraft Status:

- Current aircraft status

(7) From Task 7.4.1, Compare Deviations with Tolerances:

- Present out-of-tolerance deviations from flight plan

(8) From Task 8.1.6, Determine Conflict Imminence for Each Pair:

- High imminence conflict pairs

(9) From Task 11.5.3, Assess Aircraft Response:

- Not responding as commanded, retransmit

TASK DESCRIPTION

FILE: 14.1.3
TASK: Enter Detected Information
SUBFUNCTION: Prepare Operational Reports
FUNCTION: Maintain System Records

OUTPUTS: Recorded operational report information

DESCRIPTION:

Purpose: To record the operational report information in accordance with the applicable format

Stimulus: Event-stimulated by selection of the applicable format (Task 14.1.2), or by receipt of additional required information from the pilot or other exogenous source.

Decisions and Actions:

(1) Correlate information with format

(2) Enter information

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Interpreting:

- Association

(2) Information processing:

- Encoding/decoding

(3) Storing and retrieving information:

- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.1.2, Retrieve Applicable Operational Report Format:

- Applicable format

(2) From exogenous source:

- Operational report information
- Additional required information

(3) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

(4) From Task 5.3.2, Transmit Clearance Message:

- Transmitted clearance

(5) From Task 6.2.2, Update Aircraft Actual Time-Position Profile:

- Actual time-position profile

(6) From Task 6.4.5, Update Aircraft Status:

- Current aircraft status

(7) From Task 7.4.1, Compare Deviations with Tolerances:

- Present out-of-tolerance deviations from flight plan

(8) From Task 8.1.6, Determine Conflict Imminence for Each Pair:

- High imminence conflict pairs

(9) From Task 11.5.3, Assess Aircraft Response:

- Not responding as commanded, retransmit

TASK DESCRIPTION

FILE: 14.1.4
TASK: Determine Necessity for Additional Information
SUBFUNCTION: Prepare Operational Reports
FUNCTION: Maintain System Records

OUTPUTS:

(1) Completed operational report

(2) Identification of missing information

DESCRIPTION:

Purpose: To determine if more information is required in order to complete an operational report

Stimulus: Event-stimulated by the recording of operational report information (Task 14.1.3)

Decisions and Actions:

(1) Examine format for missing information

(2) Identify type of information which is missing

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Interpreting:

- Classification

(2) Information processing:

- Analyzer

(3) Decision making:

- Selection/choice

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 14.1.3, Enter Detected Information:

- Recorded operational report information

TASK DESCRIPTION

FILE: 14.1.5
TASK: Retrieve Additional Information
SUBFUNCTION: Prepare Operational Reports
FUNCTION: Maintain System Records

OUTPUTS: Request for additional information

DESCRIPTION:

Purpose: To obtain information to complete the operational report

Stimulus: Event-stimulated by the identification of missing information required for the operational report (Task 14.1.4)

Decisions and Actions:

(1) Format request for information

(2) Transmit request for information

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Responding:

- Communication

(2) Information processing:

- Encoding/decoding

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 14.1.4, Determine Necessity for Additional Information:

- Identification of missing information

SUBFUNCTION DESCRIPTION

FILE: 14.2
SUBFUNCTION: Compile and Store System Records
FUNCTION: Maintain System Records

OUTPUTS: (1) Stored data elements

DESCRIPTION:

Purpose: To compile and store system records

Stimulus: Event-stimulated by any listed inputs except for "responsible facility", "classification paradigm", "data base form and format", "data base storage paradigm"

Tasks: (1) Classify data elements

(2) Assign appropriate identifiers

(3) Determine if data transform/reformat is required

(4) Transform/reformat data element

(5) Enter data element into storage

Critical Performance Parameters:

(1) Validity

(2) Utility

(3) Capacity

Allocation Sensitivities:

INPUTS: (1) From Subfunction 4.4, Determine Responsibility for Control and Communication:

- Accepted flight plan
- Cancellation of the flight plan
- Communication links to be used between aircraft and ATM system

(2) From Subfunction 5.3, Compile and Issue Clearance:

- Transmitted clearance

(3) From Subfunction 6.2, Compile Aircraft's Actual Time-Position Profile:

- Actual time-position profile

(4) From Subfunction 6.4, Determine Aircraft Capability and Status:

- Current aircraft status
- Current aircraft capability

(5) From Subfunction 7.1, Detect Long-Term Conflicts Among Flight Plans:

- Conflicts identified by location, time, and aircraft involved

(6) From Subfunction 7.2, Determine Current Deviations from Flight Plan:

- Closed flight plan

(7) From Subfunction 7.4, Determine Appropriate Resolution of Deviations:

- Present out-of-tolerance deviations from flight plan in x, y, h and t
- Short-range predicted out-of-tolerance deviations from flight plan in x, y, and h
- Long-range predicted out-of-tolerance deviations from flight plan in t
- Statement from pilot that he prefers correction of performance in order to return to existing flight plan
- Statement from pilot that he prefers a revised flight plan

(8) From Subfunction 8.1, Predict Conflicts:

- Performance correction required
- Careful monitoring required

(9) From Subfunction 8.2, Resolve Conflicts:

- Transmitted performance change message
- Transmission required
- Performance change revision required

(10) From Subfunction 11.5, Compile and Transmit Guidance Instructions:

- Transmitted vectoring message
- Responding as commanded
- Not responding as commanded, retransmit
- Not responding as commanded, declare emergency

(11) From Subfunction 12.1, Service Requests for Information:

- Transmitted preformatted message to pilot
- Transmitted specially formatted message to pilot

(12) From Subfunction 12.3, Notify Pilot of Imminent Encounter with Hazardous Weather:

- Transmitted message to pilot
- No response
- Vectoring desired
- No vectoring desired

(13) From Subfunction 13.3, Effect Transfer of Responsibility:

- Functions transferred
- Communication channels
- Responsible facility

(14) From exogenous source:

- Classification paradigm
- Data base form and format criteria
- Data base storage paradigm

(15) From Subfunction 14.1, Prepare Operational Reports:

- Completed operational report

TASK DESCRIPTION

FILE: 14.2.1
TASK: Classify Data Elements
SUBFUNCTION: Compile and Store System Records
FUNCTION: Maintain System Records

OUTPUTS: Categorized data elements

DESCRIPTION:

Purpose: To determine the category(s) to which the data element is to be assigned

Stimulus: Event-stimulated by any listed input except "classification paradigm" or "responsible facility"

Decisions and Actions:

(1) Receive data element

(2) Examine content of the data element

(3) Determine appropriate category(s) according to classification paradigm

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Interpreting:

- Classification

(2) Decision making:

- Selection/choice

(3) Monitoring:

- Watch keeping

(4) Sensing:

- Signal recognition

(5) Information processing:

- Classification

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 4.4.1, Receive and Enter Pilot's Response:

- Accepted flight plan

(2) From Task 4.4.2, Cancel Flight Plan:

- Cancellation of the flight plan

(3) From Task 4.4.4, Designate Communication Links Between ATM and Aircraft:

- Communication links to be used between aircraft and ATM system

(4) From Task 5.3.2, Transmit Clearance Message:

- Transmitted clearance

(5) From Task 6.2.2, Update Aircraft Actual Time-Position Profile:

- Actual time position profile

(6) From Task 6.4.5, Update Aircraft Status:

- Current aircraft status

(7) From Task 6.4.7, Update Aircraft Capability:

- Current aircraft capability (includes performance capability and user class)

(8) From Task 7.1.4, Compare Time Position Profiles for Intersection in x, y, h and t:

- Conflicts identified by location, time, and aircraft involved

(9) From Task 7.2.2, Compute Deviations Between Aircraft's Intended and Actual Present Position:

- Closed flight plan

(10) From Task 7.4.1, Compare Deviations with Tolerances:

- Present out-of-tolerance deviations from flight plan in x, y, h and t
- Short-range predicted out-of-tolerance deviations from flight plan in x, y, and h
- Long-range predicted out-of-tolerance deviations from flight plan in t

(11) From Task 7.4.3, Receive Pilot's Response Concerning Resolution of Out-of-Tolerance Present and/or Long-Range Deviations:

- Pilot's preference to return to flight plan
- Pilot's preference for a revised flight plan

(12) From Task 8.1.7, Determine Action Required:

- Performance correction required
- Careful monitoring required

(13) From Task 8.2.4, Transmit Performance Change Message to Pilot:

- Transmitted performance change message

(14) From Task 8.2.5, Determine Performance Change Status:

- Transmission required
- Performance change revision required

(15) From Task 11.5.2, Transmit Vectoring Instructions to Pilot:

- Transmitted vectoring message

(16) From Task 11.5.3, Assess Aircraft Response:

- Responding as commanded
- Not responding as commanded, retransmit
- Not responding as commanded, declare emergency

(17) From Task 12.1.6, Transmit Preformatted Advisory to Pilot:

- Transmitted preformatted message to pilot

(18) From Task 12.1.7, Transmit Special Response to Pilot:

- Transmitted specially formatted message to pilot

(19) From Task 12.3.3, Transmit Warning Advisory to Pilot:

- Transmitted message to pilot

(20) From Task 12.3.4, Receive Pilot Response:

- No response
- Vectoring desired
- No vectoring desired

(21) From Task 13.3.2, Compile Required Information for Clearance Function:

- Functions transferred
- Responsible facility
- Communication channel

(22) From exogenous source:

- Classification paradigm

(23) From Task 14.1.4, Determine Necessity for Additional Information:

- Completed operational report

TASK DESCRIPTION

FILE: 14.2.2
TASK: Assign Appropriate Identifiers
SUBFUNCTION: Compile and Store System Records
FUNCTION: Maintain System Records

OUTPUTS: Data elements with associated identifiers

DESCRIPTION:

Purpose: To assign identifiers according to data element categories

Stimulus: Event-stimulated by receipt of categorized data element

Decisions and Actions:

(1) Select identifier to correspond with each data element category

(2) Assign identifier

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Decision making:

- Selection/choice

(2) Interpreting:

- Association

(3) Information processing:

- Merging

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.2.1, Classify Data Elements:

- Categorized data elements

(2) From exogenous source:

- Classification paradigm

TASK DESCRIPTION

FILE: 14.2.3
TASK: Determine if Data Transform/Reformat is Required
SUBFUNCTION: Compile and Store System Records
FUNCTION: Maintain System Records

OUTPUTS: (1) Data transform/reformat is necessary

(2) Data transform/reformat is not necessary

DESCRIPTION:

Purpose: To determine if data form and format are consistent with data base requirements

Stimulus: Event-stimulated by assignment of identifiers to data elements (Task 4.2.2)

Decision and Actions:

(1) Examine data element form and format

(2) Determine if data element form and format correspond with data base requirements

Phase of Flight:

Not applicable

Critical Performance Parameter:

Validity

Performance Capability Required:

(1) Interpreting:

- Association

(2) Decision making:

- Comparison with standard

(3) Information processing:

- Analysis

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.2.2, Assign Appropriate Identifiers:

- Data elements with identifiers

(2) From exogenous source:

- Data base form and format criteria

TASK DESCRIPTION

FILE: 14.2.4
TASK: Transform/Reformat Data Element
SUBFUNCTION: Compile and Store System Records
FUNCTION: Maintain System Records

OUTPUTS: Data base-compatible data element

DESCRIPTION:

Purpose: To modify the data element so that it is compatible with the data base form and format

Stimulus: Event-stimulated by the determination that data elements are not compatible with the data base form or format

Decisions and Actions:

(1) Compare data element form and format with data base form and format requirements

(2) Determine what modification to the data element are necessary

(3) Modify the data element accordingly

Phase of Flight:

Not applicable

Critical Performance Parameter:

Utility

Performance Capability Required:

(1) Information processing:

- Encoding/decoding

(2) Decision making:

- Comparison with standard
- Induction/inference/deduction

(3) Interpreting:

- Association

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.2.2, Assign Appropriate Identifiers:

- Data elements with identifiers

(2) From Task 14.2.3, Determine if Data Transform/ Reformat is Required:

- Data transform/reformat is necessary

(3) From exogenous sources:

- Data base form and format criteria

TASK DESCRIPTION

FILE: 14.2.5
TASK Enter Data Element into Storage
SUBFUNCTION: Compile and Store System Records
FUNCTION: Maintain System Record

OUTPUTS: Stored Data Element

DESCRIPTION:

Purpose: To store data elements in permanent data base

Stimulus: Event-stimulated by receipt of a data element which is compatible with the data base (Task 14.2.2 or 14.2.5)

Decisions and Actions:

(1) Receive data element

(2) Store data element in accordance with data base storage paradigm and data base element identifiers

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Capacity

(2) Utility

Performance Capability Required:

(1) Storing and retrieving information:

- Long-term memory
- Short-term memory

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 14.2.2, Assign Appropriate Identifiers:

- Data elements with identifiers

(2) From Task 14.2.3, Determine if Data Transform/Reformat is Required:

- Data transform/reformat is not necessary

(3) From Task 14.2.4, Transform/Reformat Data:

- Data base compatible data element

(4) From exogenous source:

- Data base storage paradigm

SUBFUNCTION DESCRIPTION

FILE: 14.3
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS: Completed statistical or special report

DESCRIPTION:

Purpose: To prepare and maintain statistical and special reports

Stimulus: Event-stimulated by a request for a special report (e.g., individual flight histories), or time-stimulated by recurring reports schedule

Tasks:
(1) Determine if report format is available
(2) Retrieve format
(3) Develop format
(4) Retrieve required data
(5) Analyze data
(6) Compile report

Critical Performance Parameters:
(1) Validity
(2) Utility
(3) Completeness
(4) Accuracy

Allocation Sensitivities:

INPUTS:
(1) From Subfunction 14.2, Compile and Store System Records:
- Stored data elements

(2) From exogenous source:
- Request for special report
- List of stored formats available
- Recurring reports schedule

TASK DESCRIPTION

FILE: 14.3.1
TASK: Determine if Report Format is Available
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS:

(1) Report format available

(2) No report format available

DESCRIPTION:

Purpose: To determine if a format is available for the requested report

Stimulus: Event-stimulated by a request for a special report (e.g., individual flight histories)

Decisions and Actions:

(1) Receive request for special report

(2) Compare requested report with list of available formats

(3) Determine if applicable format is available for requested report

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Decision making:

- Comparison with standard

(2) Information processing:

- Analysis

(3) Interpreting:

- Classification

(4) Storing and retrieving information:

- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS: From exogenous source:

- Request for special report
- List of stored formats available

TASK DESCRIPTION

FILE: 14.3.2
TASK: Retrieve Format
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS: Report format

DESCRIPTION:

Purpose: To retrieve the format applicable to the required report

Stimulus: Event-stimulated by determination that report format available (Task 14.3.1), or time-stimulated by recurring reports schedule

Decisions and Actions:

(1) Determine which format is required

(2) Retrieve that format

Phase of Flight:

Not applicable

Critical Performance Parameters:

Utility

Performance Capability Required:

(1) Decision making:

- Selection/choice

(2) Storing and retrieving information:

- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 14.3.1, Determine if Report Format is Available:

- Report format available

(2) From exogenous source:

- Recurring reports schedule

TASK DESCRIPTION

FILE: 14.3.3
TASK: Develop Format
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS: Report format

DESCRIPTION:

Purpose: To develop the format for a special report if no standard format is available

Stimulus: Event-stimulated by determination that no format is available (Task 14.3.1)

Decisions and Actions:

(1) Determine information to be reported

(2) Develop format accordingly

Phase of Flight:

Not applicable

Critical Performance Parameters:

Utility

Performance Capability Required:

(1) Decision making:

- Induction/inference/deduction

(2) Information processing:

- Analysis

(3) Interpreting:

- Association

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.3.1, Determine if Report Format is Available:

- No report format available

(2) From exogenous source:

- Request for special report

TASK DESCRIPTION

FILE: 14.3.4
TASK: Retrieve Required Data
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS: Required raw data

DESCRIPTION:

Purpose: To retrieve applicable data for the compilation of the statistical report

Stimulus: Event-stimulated by selection or development of a report format (Tasks 14.3.2 or 14.3.3)

Decisions and Actions:

(1) Determine data required

(2) Retrieve data

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Storing and retrieving information:

- Selective retrieval/recall

(2) Decision making:

- Induction/inference/deduction

(3) Interpreting:

- Classification

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.2.5, Enter Data Element into Storage:

- Stored data element

(2) From Task 14.3.2, Retrieve Format:

- Report format

(3) From Task 14.3.3, Develop Format:

- Report format

TASK DESCRIPTION

FILE: 14.3.5
TASK Analyze Data
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS: Processed data

DESCRIPTION:

Purpose: To perform computations and otherwise process data to arrive at values and forms which are consistent and suitable for compilation of the desired report

Stimulus: Event-stimulated by retrieval of the required raw data (Task 14.3.4)

Decisions and Actions:

(1) Check data for completeness and validity

(2) Perform computations or other processing consistent with required format

(3) Check computations for correctness

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Completeness

(2) Accuracy

(3) Validity

Performance Capability Required:

(1) Information processing:

- Analysis
- Calculation

(2) Decision making:

- Comparison with standard

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 14.3.4, Retrieve Required Data:

- Required raw data

(2) From Task 14.3.2, Retrieve Format:

- Report format

(3) From Task 14.3.3, Develop Format:

- Report format

TASK DESCRIPTION

FILE: 14.3.6
TASK: Compile Report
SUBFUNCTION: Prepare and Maintain Statistical and Special Reports
FUNCTION: Maintain System Records

OUTPUTS: Completed statistical or special report

DESCRIPTION:

Purpose: To enter the analyzed data to form a completed statistical or special report

Stimulus: Event-stimulated by receipt of processed data (Task 14.3.5)

Decisions and Actions:

(1) Receive data analysis

(2) Enter data analysis

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Responding:

- Communication

(2) Information processing:

- Encoding/decoding

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 14.3.5, Analyze Data:

- Processed data

(2) From Task 14.3.2, Retrieve Format:

- Report format

(3) From Task 14.3.3, Develop Format:

- Report format

Table 4.14-I. Flow of Information
Function 14.0: Maintain System Records

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
14.1.1	*Operational report information	Exog.	Operational report not required	End
	Rules and procedures	17.2.6	Operational report required	14.1.2
	*Transmitted clearance	5.3.2		
	*Current aircraft status	6.4.5		
	*Present out-of-tolerance deviations from flight plan	7.4.1		
	*High imminence conflict pairs	8.1.6		
	*Not responding as commanded, retransmit	11.5.3		
	*Actual time-position profile	6.2.2		
14.1.2	*Operational report required	14.1.1	Applicable format	14.1.3
	*Operational report information	Exog.		
	Rules and procedures	17.2.6		
	*Transmitted clearance	5.3.2		
	*Current aircraft status	6.4.5		
	*Present out-of-tolerance deviations from flight plan	7.4.1		
	*High imminence conflict pairs	8.1.6		
	*Not responding as commanded, retransmit	11.5.3		
	*Actual time-position profile	6.2.2		
14.1.3	*Additional required information	Exog.	Recorded operational report information	14.1.4
	*Applicable format	14.1.2		
	*Operational report information	Exog.		
	Rules and procedures	17.2.6		
	*Transmitted clearance	5.3.2		

*Task stimulus

Table 4.14-I. Flow of Information
Function 14.0: Maintain System Records (Cont'd.)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
14.1.3 (Cont'd.)	*Current aircraft status	6.4.5		
	*Present out-of-tolerance deviations from flight plan	7.4.1		
	*High imminence conflict pairs	8.1.6		
	*Not responding as commanded, retransmit	11.5.3		
	*Actual time-position profile	6.2.2		
14.1.4	*Recorded operational report information	14.1.3	Completed operational report	14.2.1
			Identification of missing information	14.1.5
14.1.5	*Identification of missing information	14.1.4	Request for additional information	Exog.
14.2.1	*Accepted flight plan	4.4.1	Categorized data elements	14.2.2
	*Cancellation of the flight plan	4.4.2		
	*Comm. links to be used between aircraft and ATM system	4.4.4		
	*Transmitted clearance	5.3.2		
	*Actual time-position profile	6.2.2		
	*Current aircraft status	6.4.5		
	*Current aircraft capability	6.4.7		
	*Conflicts identified by location time and aircraft involved	7.1.4		
	*Closed flight plan	7.2.2		
	*Present out-of-tolerance deviations from flight plan in x, y, h and t	7.4.1		

Table 4.14-I. Flow of Information

Function 14.0: Maintain System Records (Cont'd.)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
14.2.1 (Cont'd.)	*Short-range out-of-tolerance deviations from flight plan in x, y, and h	7.4.1		
	*Long-range out-of-tolerance deviations from flight plan in t	7.4.1		
	*Pilot's preference to return to flight plan	7.4.3		
	*Pilot's preference for a revised flight plan	7.4.3		
	*Transmitted performance change message	8.2.4		
	*Careful monitoring required	8.1.7		
	*Performance correction required	8.1.7		
	*Transmission required	8.2.5		
	*Performance change revision required	8.2.5		
	*Transmitted vectoring message	11.5.2		
	*Responding as commanded	11.5.3		
	*Not responding as commanded, retransmit	11.5.3		
	*Not responding as commanded, declare emergency	11.5.3		
	*Transmitted preformatted message to pilot	12.1.6		
	*Transmitted specially formatted message to pilot	12.1.7		
	*Transmitted message to pilot	12.3.3		
	*No vectoring desired	12.3.4		
	*No response	12.3.4		
	*Vectoring desired	12.3.4		
	*Functions transferred	13.3.2		

Table 4.14-I. Flow of Information
Function 14.0: Maintain System Records (Cont'd.)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
14.2.1 (Cont'd.)	*Responsible facility	13.3.2		
	*Communication channel	13.3.2		
	Classification paradigm	Exog.		
	*Completed operational report	14.1.4		
14.2.2	Classification paradigm	Exog.	Data elements with associated identifiers	14.2.3 14.2.5 14.2.4
	*Categorized data elements	14.2.1		
14.2.3	Data base form & format criteria	Exog.	Data transform/reformat is not necessary	14.2.5
	*Data elements with associated identifiers	14.2.2	Data transform/reformat is necessary	14.2.4
14.2.4	*Data transform/reformat is necessary	14.2.3	Data base-compatible data element	14.2.5
	Data base form and format criteria	Exog.		
	Data elements with associated identifiers	14.2.2		
14.2.5	Data base storage paradigm	Exog.	Stored data element	14.3.4
	*Data base compatable element	14.2.4		
	Data transfer/reformat is not necessary	14.2.3		
	*Data elements with associated identifier	14.2.2		
14.3.1	*Request for special report	Exog.	Report format available	14.3.2
	List of stored formats available	Exog.	No report format available	14.3.3
14.3.2	*Report format available	14.3.1	Report format	14.3.4 14.3.5 14.3.6
	*Recurring reports schedule	Exog.		
14.3.3	*No report format available	14.3.1	Report format	14.3.4 14.3.5 14.3.6
	Request for special report	Exog.		

Table 4.14-I. Flow of Information

Function 14.0: Maintain System Records (Cont'd.)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
14.3.4	*Report format	14.3.2	Required raw data	14.3.5
	*Report format	14.3.3		
	Stored data elements	14.2.5		
14.3.5	Report format	14.3.2	Processed data	14.3.6
	Report format	14.3.3		
	*Required raw data	14.3.4		
14.3.6	Report format	14.3.2	Completed statistical or special report	Exog.
	Report format	14.3.3		
	*Processed data	14.3.5		

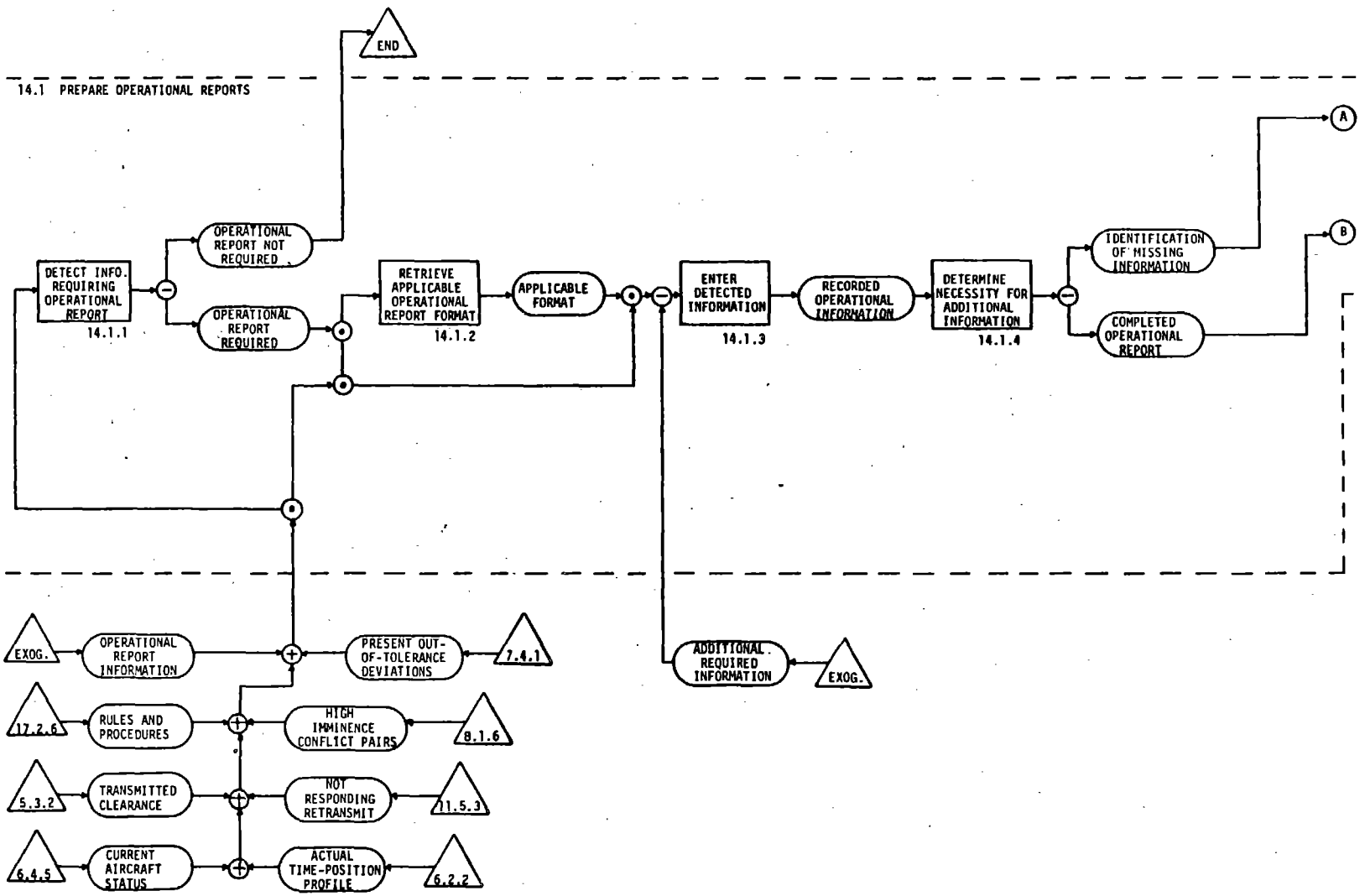


FIGURE 4.14-1. FUNCTION 14.0: MAINTAIN SYSTEM RECORDS
(SHEET 1 OF 3)

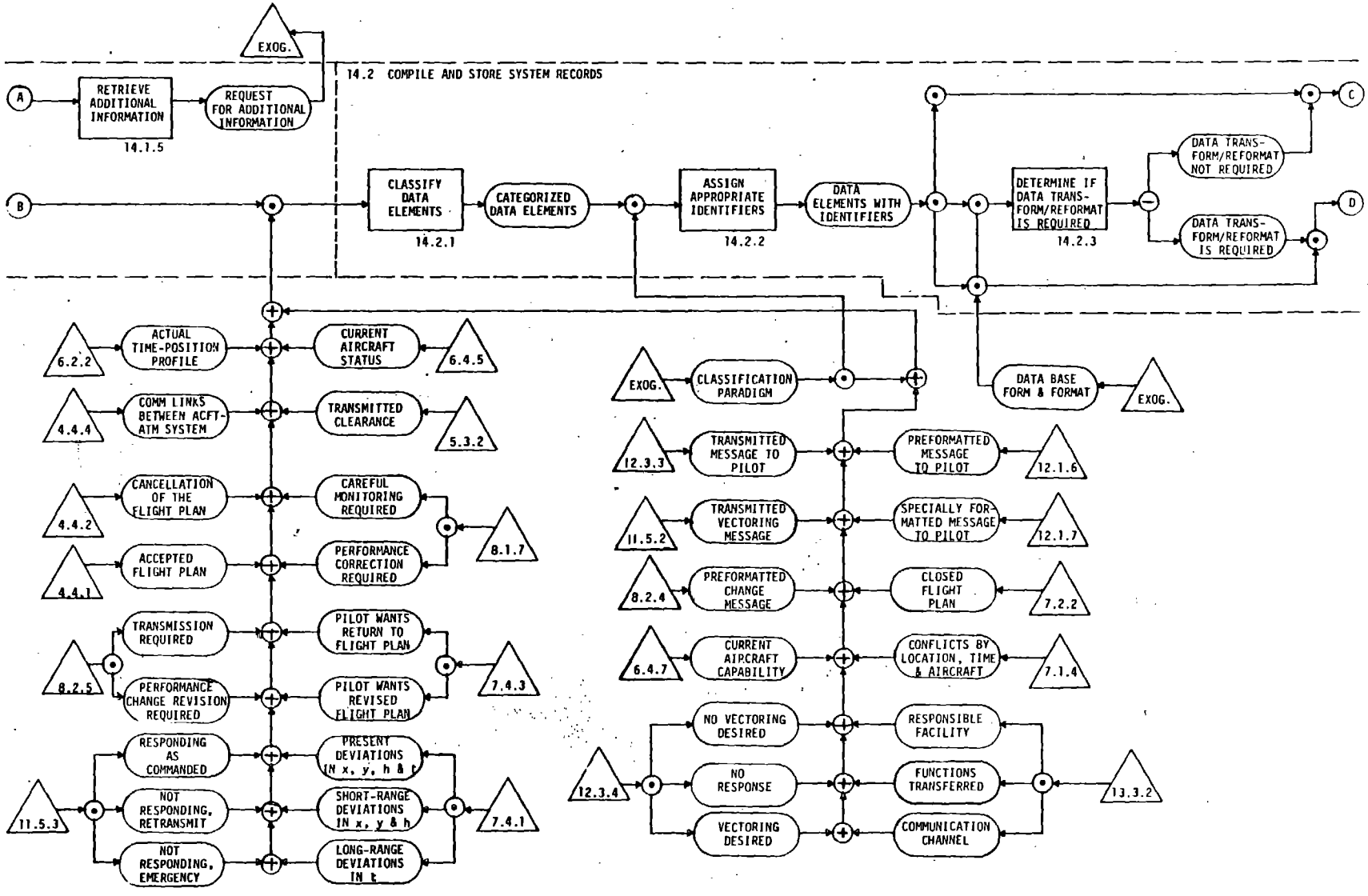


FIGURE 4.14-1. FUNCTION 14.0: MAINTAIN SYSTEM RECORDS
(SHEET 2 OF 3)

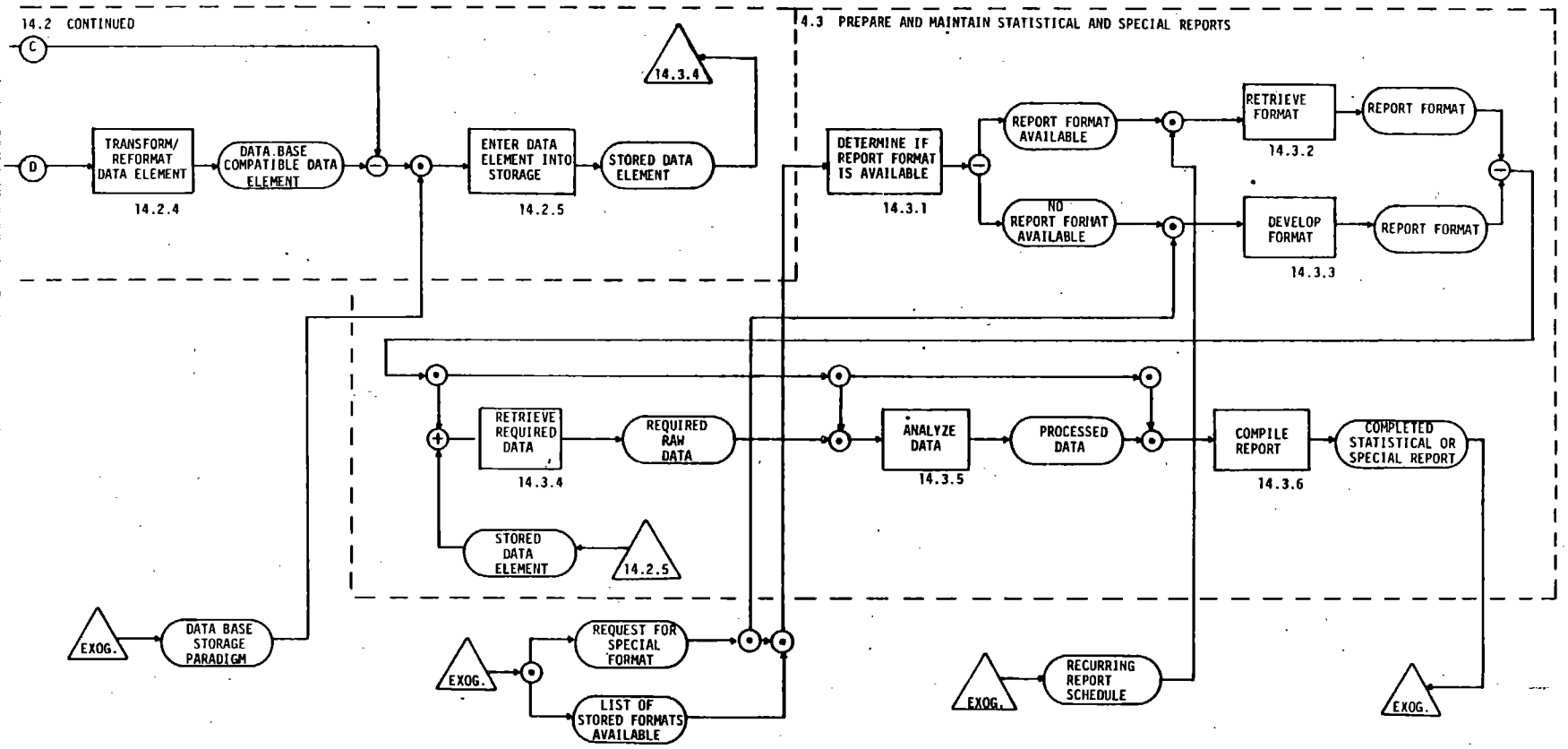
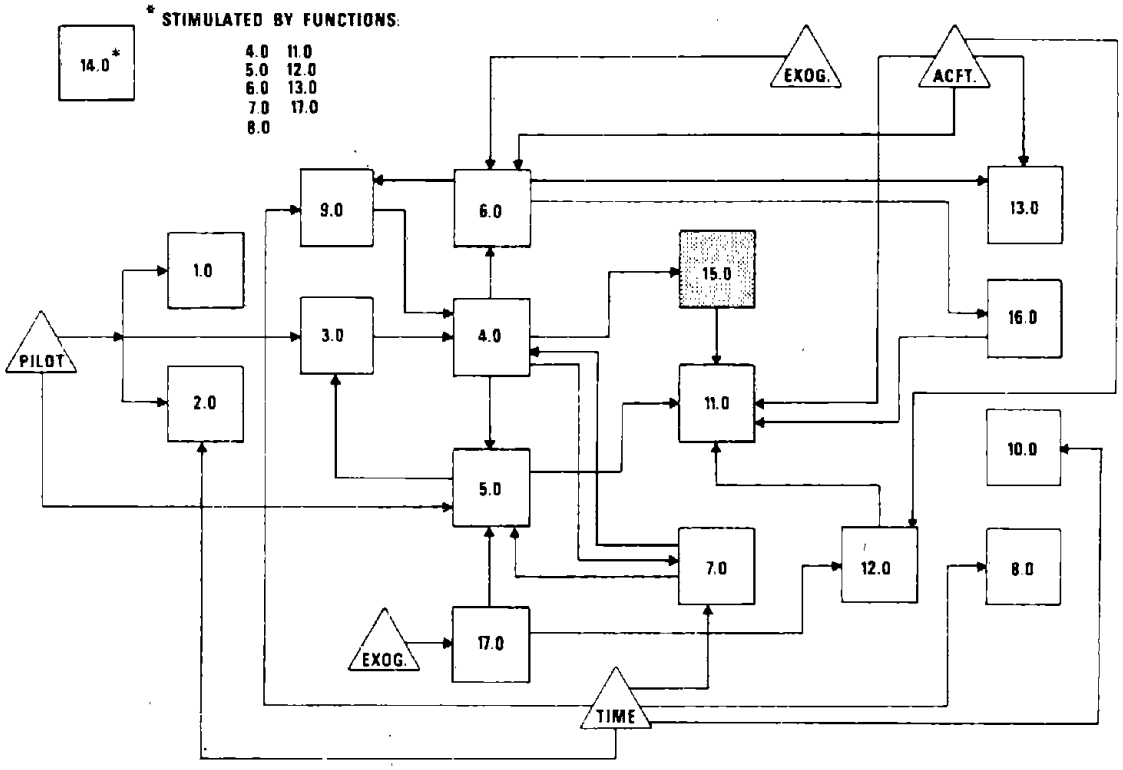


FIGURE 4.14-1. FUNCTION 14.0: MAINTAIN SYSTEM RECORDS
(SHEET 3 OF 3)

FUNCTION 15.0: PROVIDE ANCILLARY AND SPECIAL SERVICES



1.0: PROVIDE FLIGHT PLANNING INFORMATION
2.0: CONTROL TRAFFIC FLOW
3.0: PREPARE FLIGHT PLAN
4.0: PROCESS FLIGHT PLAN
5.0: ISSUE CLEARANCES AND CLEARANCE CHANGES
6.0: MONITOR AIRCRAFT PROGRESS
7.0: MAINTAIN CONFORMANCE WITH FLIGHT PLAN
8.0: ASSURE SEPARATION OF AIRCRAFT
9.0: CONTROL SPACING OF AIRCRAFT
10.0: PROVIDE AIRBORNE, LANDING AND GROUND NAVIGATION CAPABILITY
11.0: PROVIDE AIRCRAFT GUIDANCE
12.0: ISSUE FLIGHT ADVISORIES AND INSTRUCTIONS
13.0: HANDOFF
14.0: MAINTAIN SYSTEM RECORDS
15.0: PROVIDE ANCILLARY AND SPECIAL SERVICES
16.0: PROVIDE EMERGENCY SERVICES
17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION

15.0 PROVIDE ANCILLARY AND SPECIAL SERVICES

15.1 Determine Nature of Service Required

15.1.1 Compile/update description of special service required

15.1.2 Monitor progress of service

15.2 Initiate Action to Provide Service

15.2.1 Determine requirement for special flight plan priority

15.2.2 Establish area of restriction

15.2.3 Determine guidance service required

15.2.4 Determine special separation minima

15.2.5 Determine advisories required

15.2.6 Determine necessity for issuance of NOTAM(s)

SUBFUNCTION DESCRIPTION

FILE: 15.1
SUBFUNCTION: Determine Nature of Service Required
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Type of special service required

(2) Special service no longer required

(3) Cease action because of safety

DESCRIPTION:

Purpose: To determine and define what special or ancillary service is required, and to update the definition and monitor the required service to be consistent with any change in requirements which may result as the service is provided

Stimulus: Event-stimulated by request for special service from the aircraft or exogenous source, by determination that special services are required (Task 4.2.13), or by information regarding progress of providing the service

Tasks:

(1) Compile/update description of service required

(2) Monitor progress of service

Critical Performance Parameters:

Flexibility

Allocation Sensitivities:

INPUTS:

(1) From aircraft or exogenous source:

- Request for special service
- Information regarding progress of service

(2) From Subfunction 4.2, Review Flight Plan:

- Special services required

TASK DESCRIPTION

FILE: 15.1.1
TASK: Compile/Update Description of Special Service Required
SUBFUNCTION: Determine Nature of Service Required
FUNCTION: Provide Ancillary and Special Services

OUTPUTS: Description of service required

DESCRIPTION:

Purpose: To determine and define what special or ancillary services are required and to update the definition of the required service to be consistent with any change in requirements which may result as the service progresses

Stimulus: Event-stimulated by receipt of a request for special service from the aircraft or other exogenous source, by determination that special services are required (Task 4.2.13), or by receipt of information regarding progress in providing the service (Task 15.1.2)

Decisions and Actions:

(1) Receive request for special service

(2) Receive information regarding the progress of the service

(3) Formulate description of service required

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Monitoring:

- Watch keeping

(2) Interpreting:

- Association
- Classification

(3) Sensing:

- Signal recognition

(4) Decision making:

- Deduction

(5) Information processing:

- Analysis

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From the aircraft or exogenous source:

- Request for special service

(2) From Task 4.2.13, Determine Special Services Required:

- Special services required

(3) From Task 15.1.2, Monitor Progress of Service:

- Information regarding progress of service

TASK DESCRIPTION

FILE: 15.1.2
TASK: Monitor Progress of Service
SUBFUNCTION: Determine Nature of Service Required
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Information regarding the progress of the service

(2) Service no longer required

(3) Cease action because of safety

DESCRIPTION:

Purpose: To acquire and analyze data regarding progress in providing the service

Stimulus: Event-stimulated by receipt of information regarding the progress of the service from the aircraft or an exogenous source

Decisions and Actions:

(1) Receive information from pilot or exogenous source

(2) Analyze information to determine appropriate required action

(3) Make decision to:

- Update description of service required
- Stop providing service
- Stop action requiring service because of safety considerations

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Monitoring:

- Watch keeping

(2) Decision making:

- Identification of alternatives
- Selection/choice

(3) Information processing:

- Analysis

(4) Sensing:

- Signal recognition

(5) Interpreting:

- Association

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From the aircraft or exogenous source:

- Information regarding progress of service

SUBFUNCTION DESCRIPTION

FILE: 15.2
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Description of NOTAM requirement

(2) NOTAMS not required

(3) Description of required advisories

(4) Advisories not required

(5) Definition of special separation minima

(6) Special separation minima not required

(7) Description of guidance required

(8) Guidance not required

(9) Definition of area of restriction

(10) No area of restriction required

(11) New (special) flight plan priority required

(12) No new flight plan priority required

DESCRIPTION:

Purpose: To determine if the special service requires flight plan priority changes, airspace restriction, guidance, special separation minima issuance of advisories, or NOTAM's and the nature and extent of such services

Stimulus: Event-stimulated by determination of types of special service required (Subfunction 15.1)

Tasks:

(1) Determine requirement for special flight plan priority

(2) Establish area of restriction

(3) Determine guidance service required

(4) Determine special separation minima

(5) Determine advisories required

(6) Determine necessity for issuance of NOTAM's

Critical Performance Parameters:

Flexibility

Allocation Sensitivities:

INPUTS:

(1) From Subfunction 4.2, Review Flight Plan:

- Flight plan priority

(2) From Subfunction 17.2, Update Rules and Procedures Information:

- Stored data base item (rules and procedures)

(3) From Subfunction 15.1, Determine Nature of Service Required:

- Type of service required

TASK DESCRIPTION

FILE: 15.2.1
TASK: Determine Requirement for Special Flight Plan Priority
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS: (1) New (special) flight plan priority required

(2) No new flight plan priority required

DESCRIPTION:

Purpose: To determine if the service requires the priority of the flight plan to be changed

Stimulus: Event-stimulated by description of the type of special service required (Task 15.1.1)

Decisions and Actions:

(1) Determine from description of service and from applicable rules and procedures what flight plan priority is required

(2) Compare required priority with existing flight plan priority

(3) Issue new flight plan priority as required

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Interpreting:

- Association
- Classification

(2) Information processing:

- Analysis

(3) Decision making:

- Comparison with standard

(4) Storing and retrieving information:

- Selective retrieval/recall

INPUTS:

(1) From Task 15.1.1, Compile/Update Description of Special Service Required:

- Description of service required

(2) From Task 4.2.9, Determine Flight Plan Priority:

- Priority of the proposed flight plan

(3) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

TASK DESCRIPTION

FILE: 15.2.2
TASK: Establish Area of Restriction
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Definition of area of restriction

(2) No area of restriction required

DESCRIPTION:

Purpose: To define an area of airspace within which only certain aircraft may operate (i.e., the aircraft receiving the special service)

Stimulus: Event-stimulated by description of the types of special service required (Task 15.1.1)

Decisions and Actions:

(1) Determine from description of service required and applicable rules and procedures if an area of restriction is required

(2) Define boundaries of area of restriction

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Interpreting:

- Association
- Classification

(2) Information processing:

- Sorting

(3) Decision making:

- Selection/choice

(4) Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 15.1.1, Compile/Update Description of Special Service Required:

- Description of service required

(2) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

TASK DESCRIPTION

FILE: 15.2.3
TASK: Determine Guidance Service Required
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Description of guidance required

(2) No guidance required

DESCRIPTION:

Purpose: To determine if the special service includes guidance and if so, the extent of the required guidance

Stimulus: Event-stimulated by description of the types of special service required (Task 15.1.1)

Decisions and Actions:

(1) Determine from description of service required and applicable rules and procedures if guidance is required

(2) Formulate description of required guidance

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Interpreting:

- Association
- Classification

(2) Information processing:

- Sorting

(3) Decision making:

- Selection/choice

(4) Storing and retrieving:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 15.1.1, Compile/Update Description of Special Service Required:

- Description of service required

(2) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

TASK DESCRIPTION

FILE: 15.2.4
TASK: Determine Special Separation Minima
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Definition of special separation minima

(2) Special separation minima not required

DESCRIPTION:

Purpose: To determine if the special service includes special separation minima, and if so, what the minima are

Stimulus: Event-stimulated by description of the types of special service required (Task 15.1.1)

Decisions and Actions:

(1) Determine from description of service required and applicable rules and procedures if special separation minima are required

(2) Formulate definition of special separation minima

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Interpreting:

- Association
- Classification

(2) Information processing:

- Sorting

(3) Decision making:

- Selection/choice

(4) Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 15.1.1, Compile/Update Description of Special Service Required:

- Description of service required

(2) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

TASK DESCRIPTION

FILE: 15.2.5
TASK: Determine Advisories Required
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS:

(1) Description of required advisories

(2) Advisories not required

DESCRIPTION:

Purpose: To determine if the special service includes the issuance of advisories, and if so, the nature of the advisories

Stimulus: Event-stimulated by description of the types of special service required (Task 15.1.1)

Decisions and Actions:

(1) Determine from description of service required and applicable rules and procedures if advisories are required as a part of the service

(2) Formulate definition of required advisories

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Interpreting:

- Association
- Classification

(2) Information processing:

- Sorting

(3) Decision making:

- Selection/choice

(4) Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 15.1.1, Compile/Update Description of Special Service Required:

- Description of service required

(2) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

TASK DESCRIPTION

FILE: 15.2.6
TASK: Determine Necessity for Issurance of NOTAM(s)
SUBFUNCTION: Initiate Action to Provide Service
FUNCTION: Provide Ancillary and Special Services

OUTPUTS: (1) Description of NOTAM requirements

(2) NOTAM(s) not required

DESCRIPTION:

Purpose: To determine if the special service includes the issurance of NOTAM(s), and if so, the nature of the NOTAM(s)

Stimulus: Event-stimulated by description of the types of special service required (Task 15.1.1)

Decisions and Actions:

(1) Determine from description of service required and applicable rules and procedures, if NOTAM(s) are required as a part of the special service

(2) Formulate definition of required NOTAM(s)

Phase of Flight:

All phases except postflight

Critical Performance Parameters:

Flexibility

Performance Capability Required:

(1) Interpreting:

- Association
- Classification

(2) Information processing:

- Sorting

(3) Decision making:

- Selection/choice

(4) Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivites:

External Constraints:

INPUTS:

(1) From Task 15.1.1, Compile/Update Description of Special Service Required:

- Description of service required

(2) From Task 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

Table 4.15-I. Flow of Information

Function 15.0: Provide Ancillary and Special Services

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
15.1.1	*Request for special service	Acft Exog.	Description of special service required	15.1.1 15.2.2 15.2.3 15.2.4 15.2.5 15.2.6
	*Special services required	4.2.13		
	*Progress of service	15.1.2		
15.1.2	*Information regarding progress of service	Acft Exog.	Progress of service	15.1.1
			Service no longer required	4.2.9 8.1.5 8.1.6 17.5.1
			Cease action because of safety	acft
15.2.1	*Description of service required	15.1.1	New flight plan priority required	4.2.9
	Flight plan priority	4.2.9	No new flight plan priority required	End
	Rules and procedures	17.2.6		
15.2.2	*Description of service required	15.1.1	Definition of area of restriction	17.5.1
	Rules and procedures	17.2.6	No area of restriction required	End
15.2.3	*Description of service required	15.1.1	Description of guidance required	11.1.1
	Rules and procedures	17.2.6	No guidance required	End
15.2.4	*Description of service required	15.1.1	Definition of special separation minima	8.1.5 8.1.6
	Rules and procedures	17.2.6	Special separation minima not required	End
15.2.5	*Description of service required	15.1.1	Description of req'd. advisories	12.1.3
	Rules and procedures	17.2.6	Advisories not req'd.	End
15.2.6	*Description of service required	15.1.1	Description of NOTAM requirements	17.11.1 17.11.2
	Rules and procedures	17.2.6	NOTAM not required	End

*Task stimulus

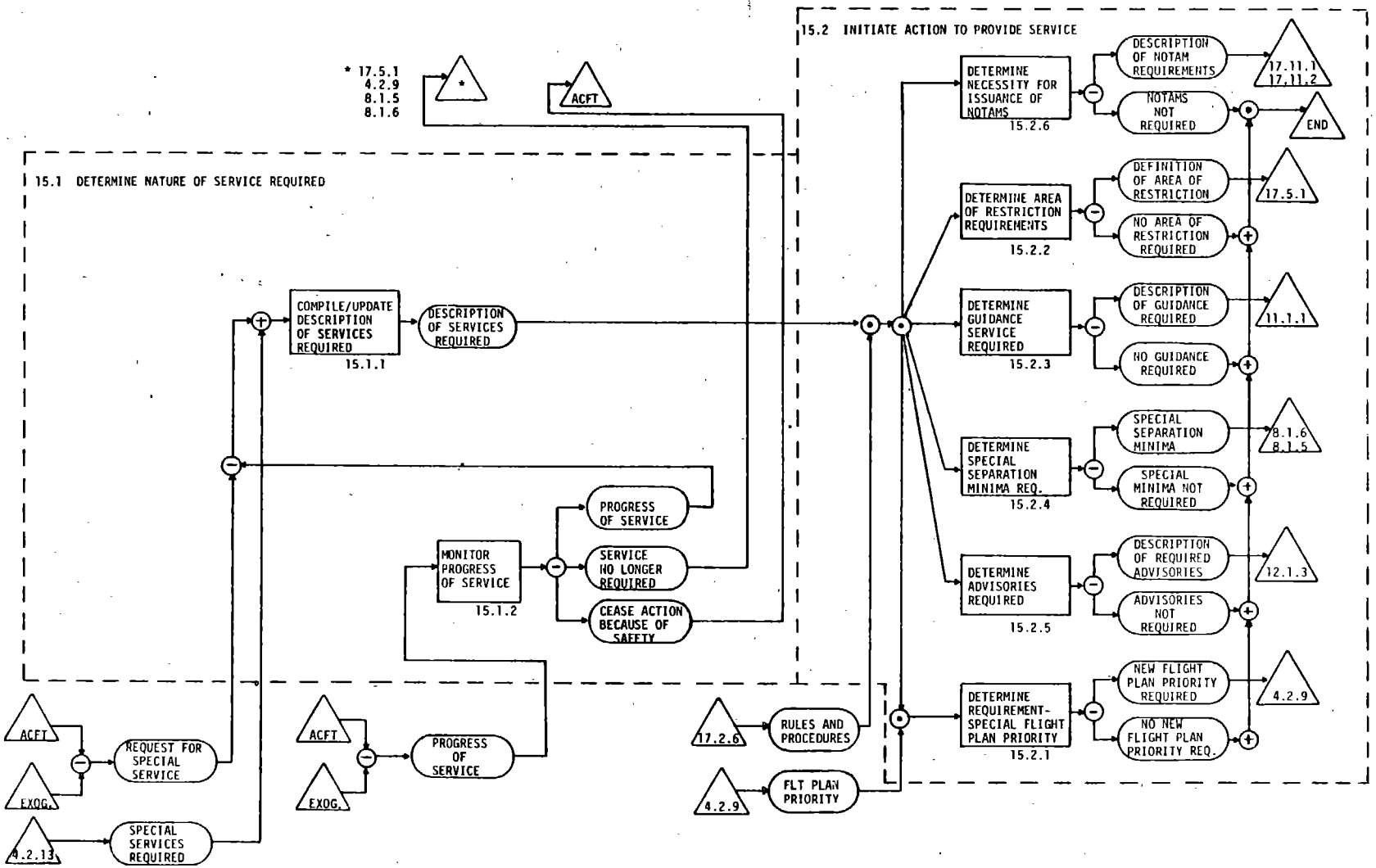
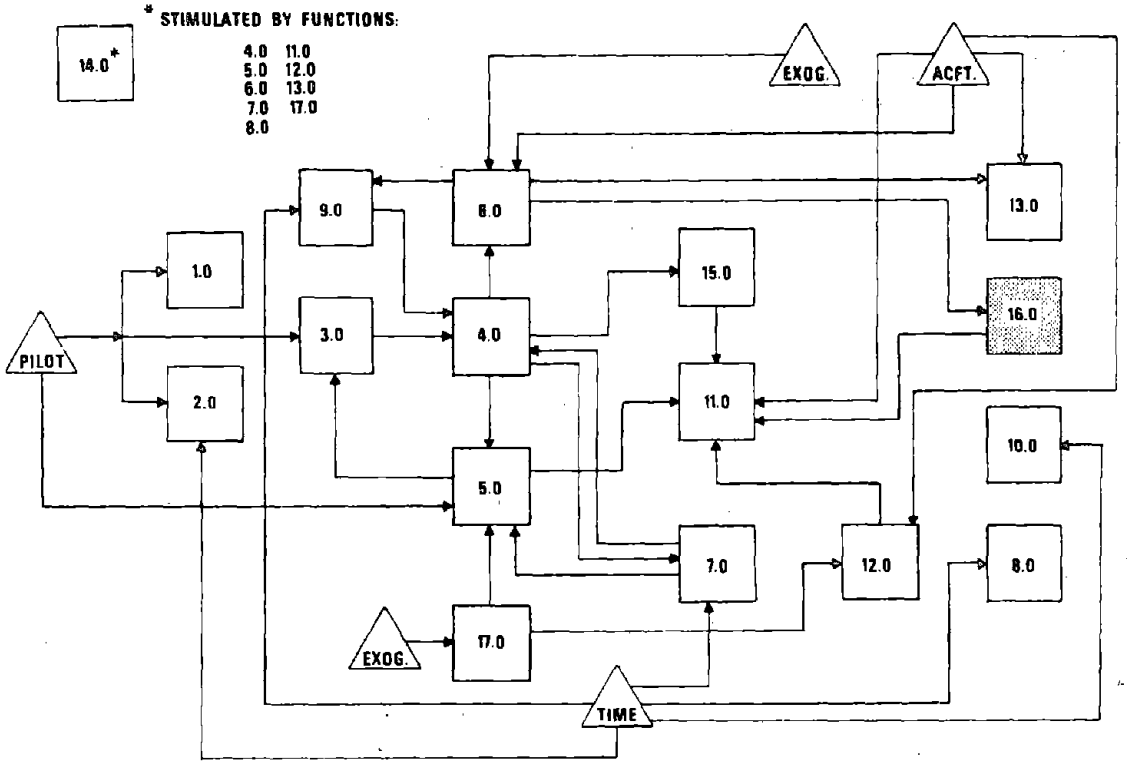


FIGURE 4.15-1. FUNCTION 15.0: PROVIDE ANCILLARY AND SPECIAL SERVICES
(SHEET 1 OF 1)

FUNCTION 16.0: PROVIDE EMERGENCY SERVICES



1.0: PROVIDE FLIGHT PLANNING INFORMATION
2.0: CONTROL TRAFFIC FLOW
3.0: PREPARE FLIGHT PLAN
4.0: PROCESS FLIGHT PLAN
5.0: ISSUE CLEARANCES AND CLEARANCE CHANGES
6.0: MONITOR AIRCRAFT PROGRESS
7.0: MAINTAIN CONFORMANCE WITH FLIGHT PLAN
8.0: ASSURE SEPARATION OF AIRCRAFT
9.0: CONTROL SPACING OF AIRCRAFT
10.0: PROVIDE AIRBORNE, LANDING AND GROUND NAVIGATION CAPABILITY
11.0: PROVIDE AIRCRAFT GUIDANCE
12.0: ISSUE FLIGHT ADVISORIES AND INSTRUCTIONS
13.0: HANDOFF
14.0: MAINTAIN SYSTEM RECORDS
15.0: PROVIDE ANCILLARY AND SPECIAL SERVICES
16.0: PROVIDE EMERGENCY SERVICES
17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION

16.0 PROVIDE EMERGENCY SERVICES

16.1 Describe Emergency Situation

- 16.1.1 Determine adequacy of emergency description
- 16.1.2 Request additional required information
- 16.1.3 Compile/update description of emergency

16.2 Determine Required Response to Emergency

- 16.2.1 Determine required ground support assistance
- 16.2.2 Determine assistance required from other aircraft
- 16.2.3 Determine aircraft to provide assistance
- 16.2.4 Issue instructions to aircraft providing assistance
- 16.2.5 Determine required technical instructions to aircraft in emergency situation
- 16.2.6 Develop emergency flight plan
- 16.2.7 Determine requirement for use of emergency communication link
- 16.2.8 Inform pilot of change to emergency frequency link
- 16.2.9 Determine required guidance assistance
- 16.2.10 Issue instructions to appropriate ground support facility

SUBFUNCTION DESCRIPTION

FILE: 16.1
SUBFUNCTION: Describe Emergency Situation
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Information request (for additional information about the emergency)

(2) Description of emergency

(3) Emergency ended

DESCRIPTION:

Purpose: To ensure that the emergency situation is described adequately and completely so that the proper response to the emergency may be made

Stimulus: Event-stimulated by receipt of a description of an emergency (Subfunction 6.4)

Tasks:

(1) Determine adequacy of emergency description

(2) Request additional required information

(3) Compile description of emergency

Phase of Flight:

All except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Hypothesis formulation
- Induction/inference

(2) Responding:

- Communication

(3) Storing and retrieving information:

- Short-term memory

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Pilot/or Exogenous Source:

- Additional required information

(2) From Subfunction 6.4, Determine Aircraft Capability and Status:

- Description of emergency situation
- Emergency ended

(3) From Subfunction 5.3, Compile and Issue Clearance:

- Unable to issue clearance

(4) From Subfunction 11.5, Compute Guidance Commands:

- Not responding as commanded, declare emergency

(5) From Subfunction 16.2, Determine Required Response to Emergency:

- No aircraft available

(6) From Subfunction 12.1, Service Requests for Information:

- Information not available

(7) From pilot of assisting aircraft or from pilot of the aircraft in the emergency situation or from exogenous (ground support facility) source:

- Information regarding progress of the emergency

TASK DESCRIPTION

FILE: 16.1.1
TASK: Determine Adequacy of Emergency Description
SUBFUNCTION: Describe Emergency Situation
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Description adequate

(2) Description inadequate

DESCRIPTION:

Purpose: To determine if the emergency description from Task 6.4.3 is sufficiently detailed to support an adequate response to the emergency, or if more information is needed and can be obtained

Stimulus: Event-stimulated by the receipt of a description of emergency (Task 6.4.3)

Decisions and Actions:

(1) Receive and enter emergency description

(2) Examine content of emergency description to determine if description is adequate

(3) If not adequate, determine from description if more information would be available

(4) If yes to (2) or no to (3) stimulate Tasks 16.2.1, 16.2.2, 16.2.5, 16.2.6

(5) If yes to (3), stimulate Task 16.1.2

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Hypothesis formulation
- Induction/inference

(2) Monitoring:

- Watchkeeping

(3) Sensing:

- Signal/detection

(4) Information processing:

- Association

(5) Interpreting:

- Association

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 6.4.3, Determine Nature of Emergency:

- Description of emergency situation

TASK DESCRIPTION

FILE: 16.1.2
TASK: Request Additional Required Information
SUBFUNCTION: Describe Emergency Situation
FUNCTION: Provide Emergency Services

OUTPUTS: Information request

DESCRIPTION:

Purpose: To acquire additional information required for a response to the emergency

Stimulus: Event-stimulated by the determination that the description of an emergency is inadequate (Task 16.1.1)

Decisions and Actions:

(1) Formulate request for additional information based upon examination of Description of Emergency from 6.4.3 and decision that this description was inadequate from 16.1.1

(2) Determine from description of emergency where to direct request

(3) Transmit request for additional information

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Responding:

- Communication

(2) Information processing:

- Analysis

(3) Interpreting:

- Association

(4) Decision making:

- Selection/choice

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Task 6.4.3, Determine Nature of Emergency:

- Description of emergency situation

(2) From Task 16.1.1, Determine Adequacy of Emergency Description:

- Description inadequate

TASK DESCRIPTION

FILE: 16.1.3
TASK: Compile/Update Description of Emergency
SUBFUNCTION: Describe Emergency Situation
FUNCTION: Provide Emergency Services

OUTPUTS: (1) Description of emergency

(2) Emergency ended

DESCRIPTION:

Purpose: To compile all available information concerning the emergency so that a proper response to the emergency may be determined, or to change the emergency description to reflect changes in the nature or progress of the emergency

Stimulus: Event-stimulated by receipt of:

- Additional required information from aircraft or other exogenous source (in response to request of Task 16.1.2)
- Information regarding progress of emergency from the pilot of the assisting aircraft, the pilot of the aircraft in the emergency situation, or from an exogenous (e.g., assisting ground support facility)
- Information not available (response to request for technical instructions from Task 12.1.4)
- No aircraft available (Task 16.2.3)
- Emergency ended (Task 6.4.2)
- Description adequate (Task 16.1.1)
- Unable to issue clearance (Task 5.3.3)
- Not responding as commanded, declare emergency (Task 11.5.3)

Decisions and Actions:

(1) Receive additional required information in response to request of Task 16.1.2, or information regarding the status or progress of the emergency from the other inputs to this task

(2) Combine description of emergency (Task 6.4.3) with the additional information

(3) Compile all information to form a description of the emergency

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Sensing:

- Signal recognition

(2) Information processing:

- Merging

(3) Interpreting:

- Association

(4) Decision making:

- Selection/choice

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 6.4.3, Determine Nature of Emergency:

- Description of emergency situation

(2) From aircraft or exogenous source:

- Additional required information

(3) From Task 5.3.3, Receive Acknowledgement of Clearance:

- Unable to issue clearance

(4) From Task 6.4.2, Detect Aircraft Emergencies:

- Emergency ended

(5) From Task 16.2.3, Determine Aircraft to Provide Assistance:

- No aircraft available

(6) From Task 12.1.4, Retrieve Information Requested:

- Information not available

(7) From pilot of assisting aircraft, or from pilot of the aircraft in the emergency situation, or from exogenous (ground support facility) source:

- Information regarding progress of the emergency

(8) From Task 11.5.3, Assess Aircraft Response:

- Not responding as commanded, declare emergency

SUBFUNCTION DESCRIPTION

FILE: 16.2
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Instructions to provide ground support assistance

(2) Instructions to cancel ground support assistance

(3) Assistance instructions (to assisting aircraft)

(4) Emergency ended - assisting aircraft, cease assistance

(5) No aircraft available (to provide assistance)

(6) Description of required technical instructions

(7) Emergency flight plan

(8) Instructions to change to emergency communication link

(9) Emergency communication link not required

(10) Description of guidance assistance required

(11) None required (guidance, technical instructions, ground support assistance, or assistance from other aircraft)

(12) Revised emergency flight plan

DESCRIPTION:

Purpose: To determine what action is required to deal with the emergency situation and to initiate that action

Stimulus: Event-stimulated by receipt of an adequate description of the emergency (Subfunction 16.1)

Tasks

(1) Determine required ground support assistance

(2) Determine assistance required from other aircraft

(3) Determine aircraft to provide assistance

(4) Issue instructions to aircraft providing assistance

(5) Determine required technical instructions for aircraft in emergency situation

(6) Develop emergency flight plan

(7) Determine requirement for use of emergency communication link

(8) Inform pilot to change to emergency communication link

(9) Determine required guidance assistance

(10) Issue instructions to appropriate ground support facility

Phase of Flight:

All except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation
- Identification of alternatives
- Comparison of alternatives
- Selection/choice

(2) Responding:

- Communication

(3) Information processing:

- Calculation
- Analysis

External Constraints:

Allocation Sensitivities:

INPUTS: (1) From Subfunction 16.1, Describe Emergency Situation:

- Description of emergency
- Emergency ended

(2) From Subfunction 4.4, Determine Responsibility for Control and Communication:

- Accepted flight plan
- Communication links to be used between aircraft and ATM system

(3) From Subfunction 17.1, Determine Current and Forecasted Weather:

- Stored weather sequences
- Stored weather forecasts

(4) From Subfunction 6.1, Determine Present Position:

- Correlated position and identification

(5) From Subfunction 17.8, Determine Capability and Status of Ground Facilities:

- Stored data base item (ground facility status)

(6) From Subfunction 7.4, Determine Appropriate Resolution of Deviations:

- Proposed revisions to emergency flight plan

(7) From Subfunction 6.4, Determine Aircraft Capability and Status:

- Current aircraft capability

TASK DESCRIPTION

FILE: 16.2.1
TASK: Determine Required Ground Support Assistance
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Description of ground support assistance required

(2) None required

DESCRIPTION:

Purpose: To determine the nature and extent of any ground support assistance required in the emergency situation. (Ground support assistance would include such things as emergency vehicle response, turning up intensity of runway lights or observation of landing gear position by tower personnel)

Stimulus: Event-stimulated by the compilation of an adequate description of the emergency (Task 16.1.3)

Decisions and Actions:

(1) Examine emergency description for indication of requirement for ground support assistance

(2) Formulate detailed description of required ground support assistance

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation

(2) Information processing:

- Analysis

(3) Interpreting:

- Classification

External Constraints:

Allocation Sensitivities:

INPUTS: From Task 16.1.3, Compile/Update Description of Emergency:

- Description of emergency

TASK DESCRIPTION

FILE: 16.2.2
TASK: Determine Assistance Required from Other Aircraft
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:
(1) Description of assistance required from other aircraft
(2) None required

DESCRIPTION:

Purpose: To determine the nature and extent of assistance which may be required from other aircraft

Stimulus: Event-stimulated by the compilation of an adequate description of the emergency (Task 16.1.3)

Decisions and Actions:

(1) Examine emergency description for indication of requirement for assistance from other aircraft

(2) Formulate detailed description of required assistance required from other aircraft

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation

(2) Information processing:

- Analysis

(3) Interpreting:

- Classification

External Constraints:

Allocation Sensitivities:

INPUTS: From Task 16.1.3, Compile/Update Description of Emergency:

- Description of emergency

TASK DESCRIPTION

FILE: 16.2.3
TASK: Determine Aircraft to Provide Assistance
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Aircraft to provide assistance

(2) No aircraft available

DESCRIPTION:

Purpose: To determine which aircraft can provide the assistance (as described by Task 16.2.2) to the aircraft in the emergency situation

Stimulus: Event-stimulated by the description of required assistance from other aircraft (Task 16.2.2)

Decisions and Actions:

(1) Determine which aircraft are close enough to the aircraft in the emergency situation to provide timely assistance

(2) Compare the description of the assistance required to aircraft capabilities

(3) Select aircraft to provide the assistance on the basis of timeliness of response and capability to provide the required response

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation

(2) Information processing:

- Analysis

(3) Interpreting:

- Classification

(4) Storing and retrieving information:

- Long-term memory
- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 16.2.2, Determine Assistance Required From Other Aircraft:

- Description of assistance required from other aircraft

(2) From Task 6.1.1, Receive and Enter Correlated Position and Identification (or Task 6.1.3, or 6.1.5):

- Correlated position and identification

(3) From Task 6.4.7, Update Aircraft Capability:

- Current aircraft capability (includes performance capability and user class)

TASK DESCRIPTION

FILE: 16.2.4
TASK: Issue Instructions to Aircraft Providing Assistance
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Assistance instructions

(2) Emergency ended - cease assistance

DESCRIPTION:

Purpose: To inform the pilot of the aircraft providing assistance of what he is required to do

Stimulus: Event-stimulated by the identification of the aircraft to provide assistance (Task 16.2.3), or by determination that the emergency is ended (Task 16.1.3)

Decisions and Actions:

(1) Format instruction message to pilot

(2) Transmit message

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Responding:

- Communication

(2) Information processing:

- Encoding/decoding

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 16.2.2, Determine Assistance Required From Other Aircraft:

- Description of assistance required from other aircraft

(2) From Task 16.2.3, Determine Aircraft to Provide Assistance:

- Aircraft to provide assistance

(3) From Task 16.1.3, Compile/Update Description of Emergency:

- Emergency ended

TASK DESCRIPTION

FILE: 16.2.5
TASK: Determine Required Technical Instructions to Aircraft in Emergency Situation
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Description of technical instructions to aircraft required

(2) None required

DESCRIPTION:

Purpose: To determine the nature and extent of required technical instructions to the aircraft

Stimulus: Event-stimulated by the compilation of an adequate description of the emergency (Task 16.1.3)

Decisions and Actions:

(1) Examine emergency description for indication of requirement for technical instructions to the aircraft

(2) Formulate detailed description of required technical instructions to the aircraft

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation

(2) Information processing:

- Analysis

(3) Interpreting:

- Classification

External Constraints:

Allocation Sensitivities:

INPUTS: From Task 16.1.3, Compile/Update Description of Emergency:

- Description of emergency

TASK DESCRIPTION

FILE: 16.2.6
TASK: Develop Emergency Flight Plan
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Emergency flight plan

(2) Revised emergency flight plan

DESCRIPTION:

Purpose: To develop an emergency flight plan which will describe the path of the aircraft in the emergency situation and to reflect changes in the emergency flight plan as determined in Task 7.4.4 (The primary impact of the emergency flight plan will be felt in Subfunction 7.1, where it can result in the clearing of airspace.)

Stimulus: Event-stimulated by the compilation of an adequate description of the emergency (Task 16.1.3), or by receipt of proposed revisions to an emergency flight plan (Task 7.4.4)

Decisions and Actions:

(1) Determine from emergency description and weather reports the destination of the aircraft

(2) Verify from airport capabilities and status that the destination airport is equipped to handle the emergency

(3) Determine optimum flight path to destination based on weather reports

(4) Compute ETA and necessary ETOV's based on flight path and aircraft capability as described in the emergency description

(5) Derive any other necessary information for emergency flight plan from piror flight plan for the aircraft and from the emergency description

(6) Incorporate proposed revisions to emergency flight plan to be consistent with (1) through (5) above, as applicable

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Information processing:

- Calculation

(2) Decision making:

- Probability/contingency estimation
- Identification of alternatives
- Comparison of alternatives
- Selection/choice

(3) Interpreting:

- Association
- Classification

(4) Storing and retrieving information:

- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 16.1.3, Compile Description of Emergency:

- Description of emergency

(2) From Task 4.4.1, Receive and Enter Pilot's Response:

- Accepted flight plan

(3) From Task 17.1.8, Store Weather Information:

- Stored weather sequences
- Stored weather forecasts

(4) From Task 17.8.5, Store Data Base Items:

- Stored data base items (ground facilities status)

(5) From Task 7.4.4, Develop Flight Plan Revisions to Correct Out-of-Tolerance Deviations:

- Proposed revision to emergency flight plan

TASK DESCRIPTION

FILE: 16.2.7
TASK: Determine Requirement for Use of Emergency Communication Link
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Emergency link not required

(2) Emergency link required

DESCRIPTION:

Purpose: To determine if the emergency frequency should be used for communication with the aircraft in the emergency situation

Stimulus: Event-stimulated by development of the emergency flight plan (Task 16.2.6)

Decisions and Actions:

(1) Estimate expected communication load

(2) Determine if the existing communication link will support the additional communications load

(3) If no to (2), determine from the emergency description if the pilot can dependably switch to the emergency frequency

(4) If expected communication load is light or answer to (3) is "no", maintain existing communication link

(5) If yes to (3), use emergency communication link

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Flexibility

(2) Timeliness

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation
- Comparison of alternatives

(2) Information processing:

- Analysis

(3) Interpreting:

- Association

(4) Storing and retrieving information:

- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 16.2.6, Develop Emergency Flight Plan:

- Emergency flight plan

(2) From Task 4.4.4, Designate Communication Links Between ATM and Aircraft:

- Communication links to be used between aircraft and ATM system

(3) From Task 16.1.3, Compile Description of Emergency:

- Description of emergency

TASK DESCRIPTION

FILE: 16.2.8
TASK: Inform Pilot to Change to Emergency Communication Link
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS: Instructions to change to emergency communication link

DESCRIPTION:

Purpose: To instruct the pilot of the aircraft in the emergency situation to change to the emergency frequency link

Stimulus: Event-stimulated by determination that use of emergency link is required (Task 16.2.7)

Decisions and Actions:

(1) Format message

(2) Transmit message

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

Timeliness

Performance Capability Required:

(1) Responding:

- Communication

(2) Information processing:

- Encoding/decoding

External Constraints:

Allocation Sensitivities:

INPUTS: From Task 16.2.7, Determine Requirement for Use of Emergency Communication Link:

- Emergency link required

TASK DESCRIPTION

FILE: 16.2.9
TASK: Determine Required Guidance Assistance
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Description of guidance assistance required

(2) None required

DESCRIPTION:

Purpose: To determine the nature and extent of any guidance assistance required in the emergency situation

Stimulus: Event-stimulated by development of the emergency flight plan or revised emergency flight plan (Task 16.2.6)

Decisions and Actions:

(1) Examine emergency description and emergency flight plan for indication of requirement for guidance

(2) Formulate detailed description of required guidance

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Decision making:

- Probability/contingency estimation

(2) Information processing:

- Analysis

(3) Interpreting:

- Association

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 16.1.3, Compile/Update Description of Emergency:

- Description of emergency

(2) From Task 16.2.6, Develop Emergency Flight Plan:

- Emergency flight plan
- Revised emergency flight plan

TASK DESCRIPTION

FILE: 16.2.10
TASK: Issue Instructions to Appropriate Ground Support Facility
SUBFUNCTION: Determine Required Response to Emergency
FUNCTION: Provide Emergency Services

OUTPUTS:

(1) Instructions to provide assistance

(2) Instructions to cancel assistance

DESCRIPTION:

Purpose: To communicate to a ground support facility the assistance required to deal with the emergency situation or to cancel such action is the emergency has ended

Stimulus: Event-stimulated by determination of the required ground support assistance (Task 16.2.1), or a determination that the emergency is ended (Task 16.1.3)

Decisions and Actions:

(1) Format message

(2) Transmit message

Phase of Flight:

All phases except preflight and postflight

Critical Performance Parameters:

(1) Timeliness

(2) Flexibility

Performance Capability Required:

(1) Responding:

- Communication

(2) Information processing:

- Encoding/decoding

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 16.1.3, Compile/Update Description of Emergency:

- Emergency ended

(2) From Task 16.2.1, Determine Required Ground Support Assistance:

- Description of ground support assistance required

Table 4.16-I. Flow of Information

Function 16.0: Provide Emergency Services

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
16.1.1	*Description of emergency situation	6.4.3	Description inadequate	16.1.2
			Description adequate	16.1.3
16.1.2	Description of emergency situation	6.4.3	Information request	Acft Exog.
	*Description inadequate	16.1.1		
16.1.3	Description of emergency situation	6.4.3	Emergency ended	5.2.2 7.1.2 7.2.1 7.3.1 7.4.4 16.2.10 16.2.4
	*Unable to issue clearance	5.3.3	Description of emergency	16.2.1 16.2.2 16.2.5 16.2.6 16.2.7 16.2.9
	Description adequate	16.1.1		
	Not responding as commanded declare emergency	11.5.3		
	Emergency ended	6.4.2		
	No aircraft available	16.2.3		
	Information not available	12.1.4		
	Information regarding progress of emergency	Asst. Acft Emerg. Acft Ground Support		
	*Additional required information	Acft Exog.		
16.2.1	*Description of emergency	16.1.3	Description of ground support assistance required	16.2.10
			None required	End
16.2.2	*Description of emergency	16.1.3	Description of assistance required from other aircraft	16.2.3 16.2.4
			None required	End

*Task stimulus

Table 4.16-I. Flow of Information
Function 16.0: Provide Emergency Services (Cont'd.)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
16.2.3	*Description of assistance required from other acft	16.2.2	Aircraft to provide assistance	16.2.4
	Correlated position and identification	6.1.3 6.1.5 6.1.1	No aircraft available	16.1.3
	Current aircraft capability	6.4.7		
16.2.4	Description of assistance required from other aircraft	16.2.2	Emergency ended - cease assistance	Assist. Acft
	*Emergency ended	16.1.3	Assistance instructions	Assist. Acft
	*Aircraft to provide assistance	16.2.3		
16.2.5	*Description of emergency	16.1.3	Description of required technical instructions	12.1.3
			None required	End
16.2.6	*Description of emergency	16.1.3	Emergency flight plan	5.2.2 7.1.2 7.2.1 7.3.1 7.4.4 16.2.7 16.2.9
	Accepted flight plan	4.4.1		
	Stored weather sequences	17.1.8		
	Stored weather forecasts	17.1.8		
	Ground facilities status information	17.8.5		
	Proposed revisions to emergency flight plan	7.4.4	Revised emergency flight plan	5.2.2 7.1.2 7.2.1 7.3.1 7.4.4 16.2.9
16.2.7	*Emergency flight plan	16.2.6	Emergency link not required	End
	Communication links to be used between ATM system and aircraft	4.4.4	Emergency link req'd.	16.2.8
	Description of emergency	16.1.3		
16.2.8	*Emergency link required	16.2.7	Instructions to change to emergency comm. link	Acft

Table 4.16-I. Flow of Information
Function 16.0: Provide Emergency Services (Cont'd.)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
16.2.9	Description of emergency	16.1.3	Description of guidance assistance required	11.1.1
	*Emergency flight plan	16.2.6		
	*Revised emergency flight plan	16.2.6	None required	End
16.2.10	*Emergency ended	16.1.3	Instruction to provide assistance	Exog.
	Description of required ground support assistance	16.2.1	Instructions to cancel assistance	Exog.

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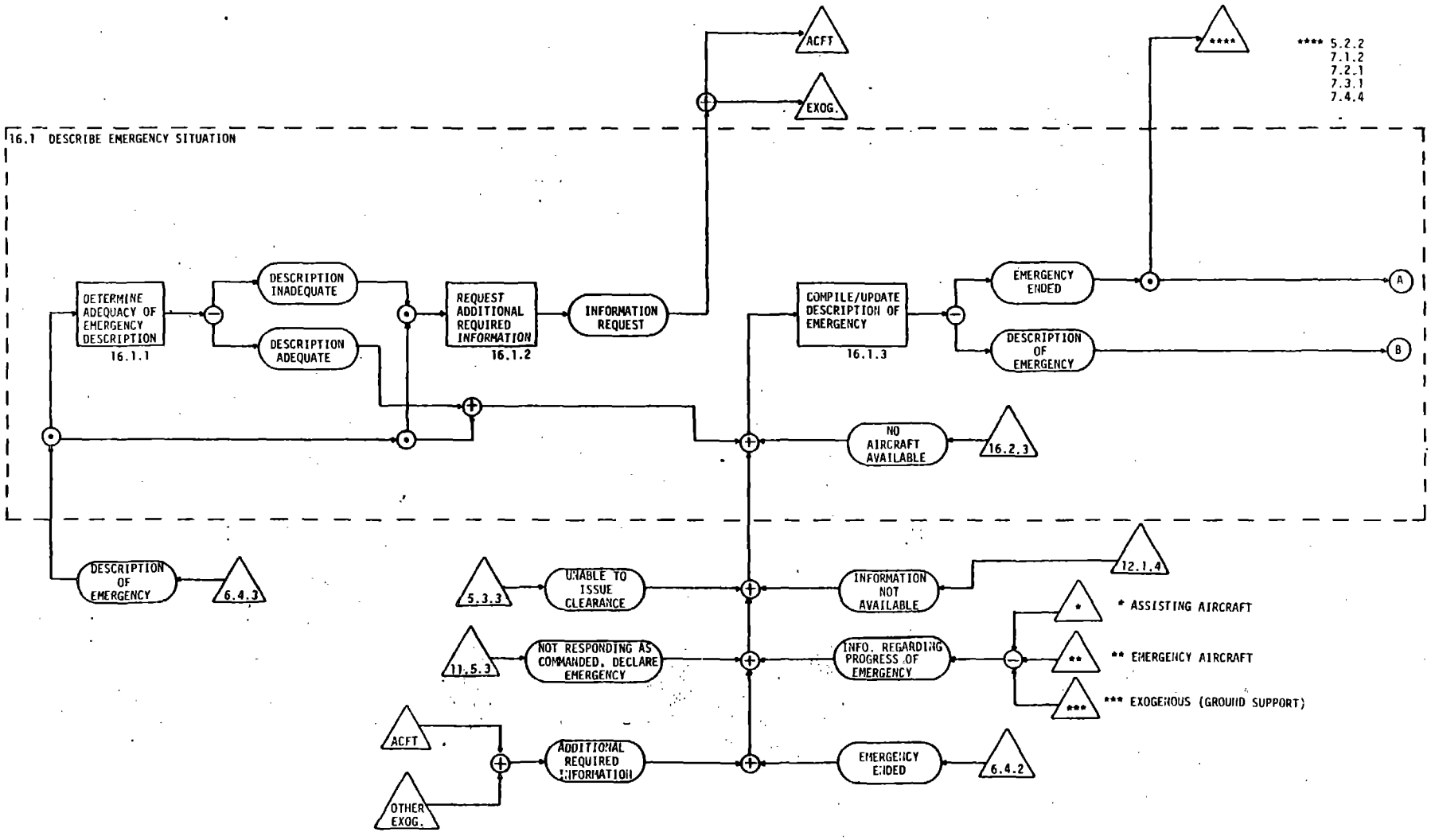


FIGURE 4.16-1. FUNCTION 16.0: PROVIDE EMERGENCY SERVICE (SHEET 1 OF 1)

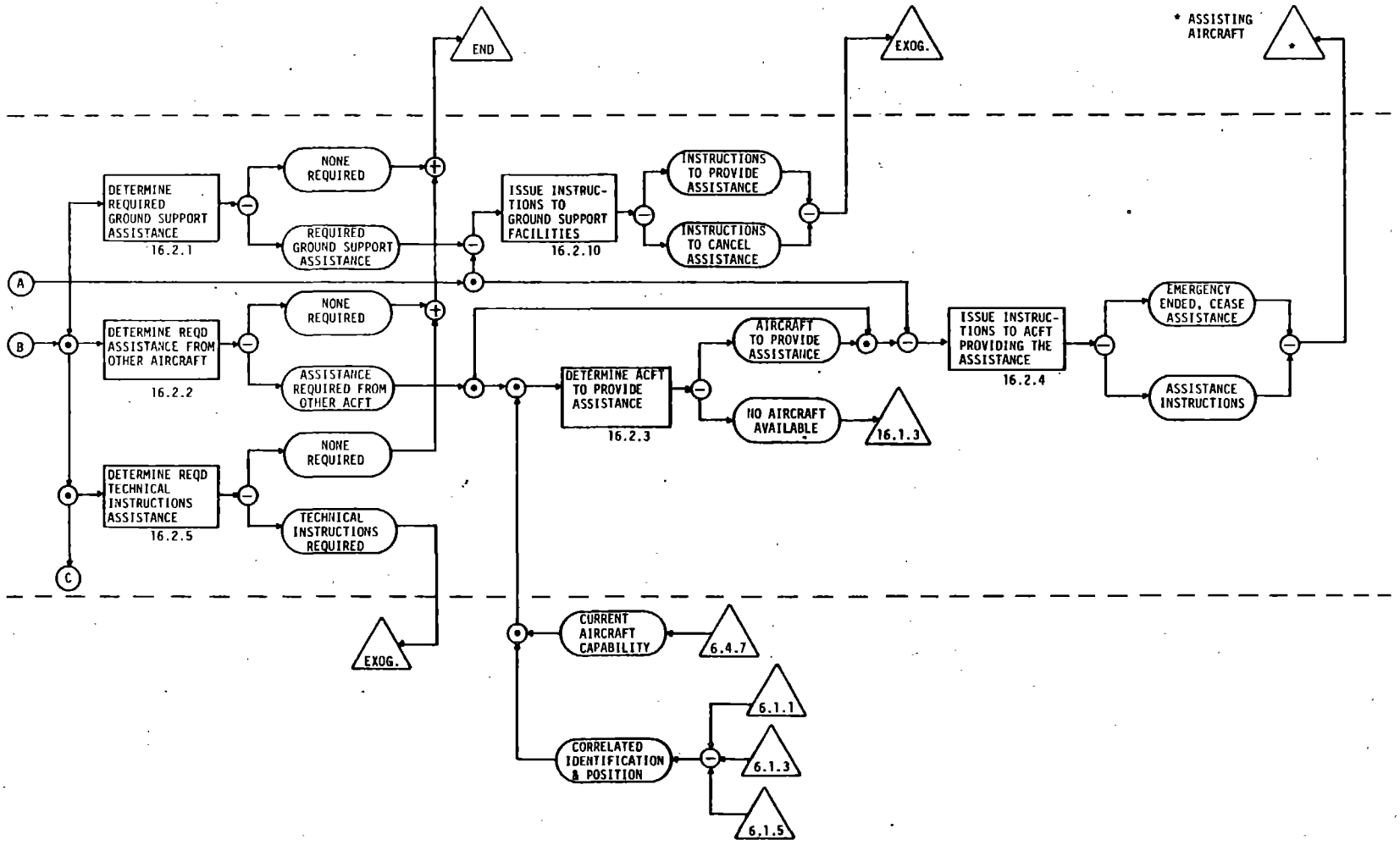


FIGURE 4.16-1. FUNCTION 16.0: PROVIDE EMERGENCY SERVICES
(SHEET 2 OF 3)

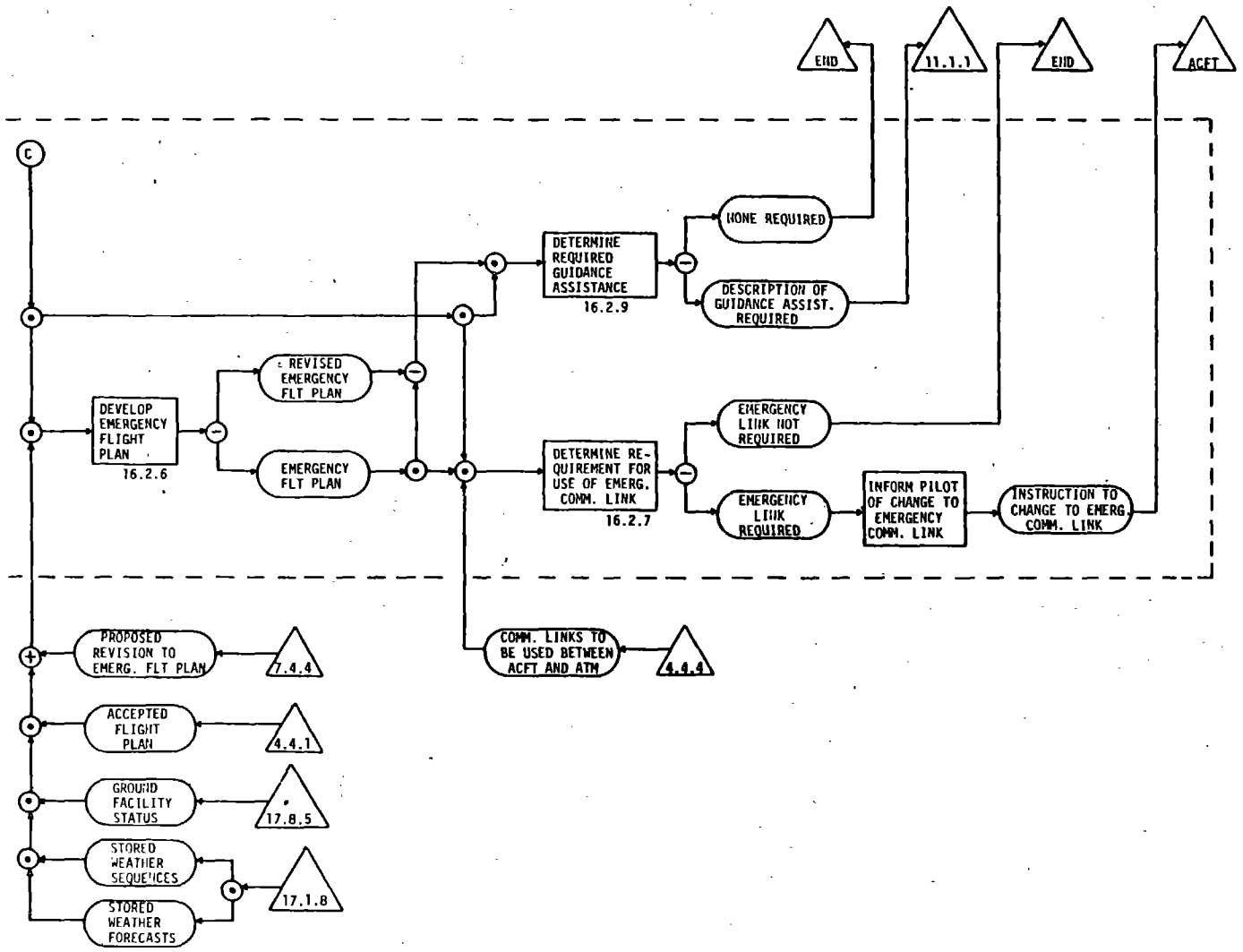
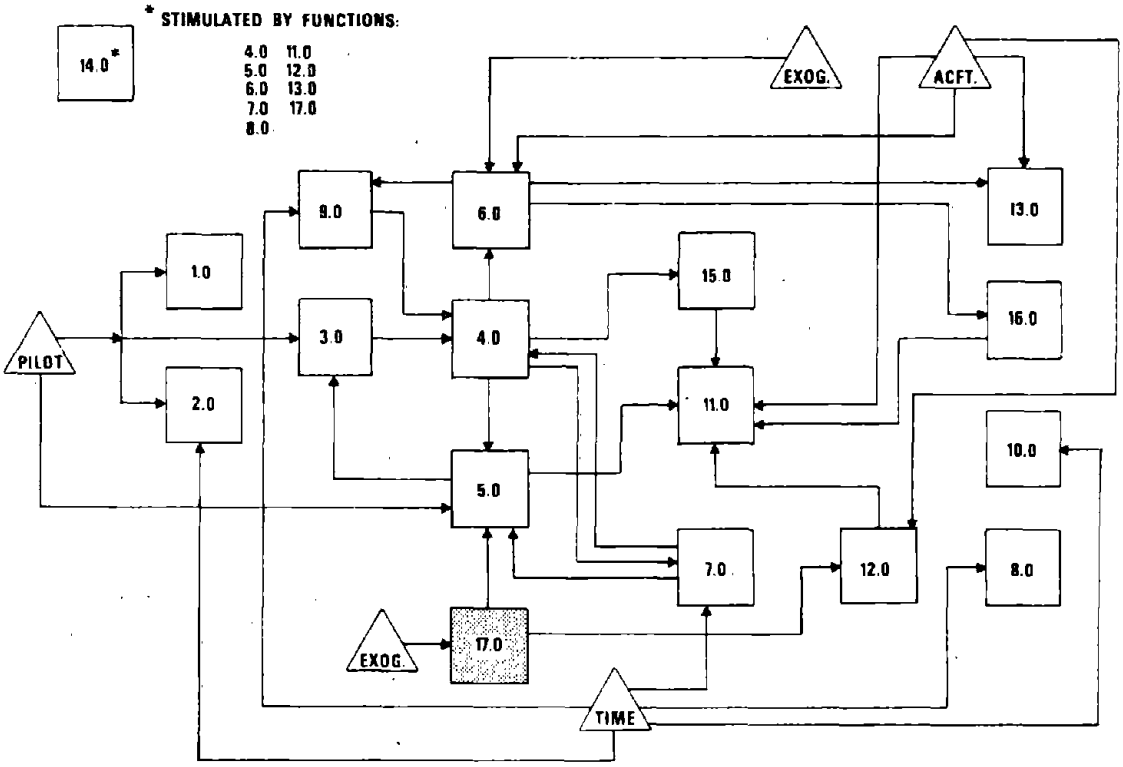


FIGURE 4.16-1. FUNCTION 16.0: PROVIDE EMERGENCY SERVICES
(SHEET 3 OF 3)

FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION



1.0: PROVIDE FLIGHT PLANNING INFORMATION
2.0: CONTROL TRAFFIC FLOW
3.0: PREPARE FLIGHT PLAN
4.0: PROCESS FLIGHT PLAN
5.0: ISSUE CLEARANCES AND CLEARANCE CHANGES
6.0: MONITOR AIRCRAFT PROGRESS
7.0: MAINTAIN CONFORMANCE WITH FLIGHT PLAN
8.0: ASSURE SEPARATION OF AIRCRAFT
9.0: CONTROL SPACING OF AIRCRAFT
10.0: PROVIDE AIRBORNE, LANDING AND GROUND NAVIGATION CAPABILITY
11.0: PROVIDE AIRCRAFT GUIDANCE
12.0: ISSUE FLIGHT ADVISORIES AND INSTRUCTIONS
13.0: HANDOFF
14.0: MAINTAIN SYSTEM RECORDS
15.0: PROVIDE ANCILLARY AND SPECIAL SERVICES
16.0: PROVIDE EMERGENCY SERVICES
17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION

17.0 MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION

17.1 Determine Current and Forecast Weather

17.1.1 Determine if weather observation report is required
17.1.2 Determine if supplemental data is required
17.1.3 Request PIREP
17.1.4 Receive supplemental data
17.1.5 Make weather observation report
17.1.6 Transmit weather observation report
17.1.7 Receive and enter weather information
17.1.8 Store weather information

17.2 Update Rules and Procedures Information

17.2.1 Determine data base item affected
17.2.2 Retrieve affected data base item
17.2.3 Determine required change to the data base item
17.2.4 Purge affected data base item
17.2.5 Format new data base item
17.2.6 Store data base item

17.3 Update Airspace Structure and Jurisdictional Boundary Information

17.3.1 Determine data base item affected
17.3.2 Retrieve affected data base item
17.3.3 Determine required change to the data base item
17.3.4 Purge affected data base item
17.3.5 Format new data base item
17.3.6 Store data base item

17.4 Update Route Information

17.4.1 Determine data base item affected
17.4.2 Retrieve affected data base item
17.4.3 Determine required change to the data base item
17.4.4 Purge affected data base item
17.4.5 Format new data base item
17.4.6 Store data base item

17.5 Update Airspace Restriction Information

- 17.5.1 Determine data base item affected
- 17.5.2 Retrieve affected data base item
- 17.5.3 Determine required change to the data base item
- 17.5.4 Purge affected data base item
- 17.5.5 Format new data base item
- 17.5.6 Store data base item

17.6 Update Hazards to Flight Information

- 17.6.1 Determine data base item affected
- 17.6.2 Retrieve affected data base item
- 17.6.3 Determine required change to the data base item
- 17.6.4 Purge affected data base item
- 17.6.5 Format new data base item
- 17.6.6 Store data base item

17.7 Determine Capability and Status of COMM-NAV System

- 17.7.1 Monitor COMM and NAV systems for status change
- 17.7.2 Activate standby equipment
- 17.7.3 Retrieve affected data base item
- 17.7.4 Format new data base item
- 17.7.5 Store data base item

17.8 Determine Capability and Status of Ground Facilities

- 17.8.1 Monitor ground facilities for status change
- 17.8.2 Activate standby equipment
- 17.8.3 Retrieve affected data base item
- 17.8.4 Format new data base item
- 17.8.5 Store data base item

17.9 Maintain User Class Information

- 17.9.1 Receive and index user class information
- 17.9.2 Retrieve affected data base item
- 17.9.3 Determine change required
- 17.9.4 Purge affected user class data base item
- 17.9.5 Format user class data base item
- 17.9.6 Store user class data base item

17.10 Compile Traffic Summaries

- 17.10.1 Maintain tallies of active flight plans
- 17.10.2 Compile ETD's, ETOV's, and ETA's
- 17.10.3 Store traffic data

17.11 Prepare Preformatted Data Modules

- 17.11.1 Determine requirement for preformatted data modules
- 17.11.2 Compile preformatted data modules

SUBFUNCTION DESCRIPTION

FILE: 17.1
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Weather sequences

(2) Stored weather sequences

(3) Position and movement of severe weather phenomena data

(4) Stored severe weather phenomena data

(5) Weather forecasts

(6) Stored weather forecasts

(7) Route summaries

(8) Stored route summaries

(9) Weather charts

(10) Stored weather charts

(11) Request for PIREP

(12) Weather observation report not required

(13) Transmitted weather observation report

DESCRIPTION:

Purpose: To compile (if required), receive, and store current and forecast weather

Stimulus: Event-stimulated by receipt of an unsolicited PIREP or by weather values exceeding predetermined levels; time-stimulated by the weather observation report schedule

Tasks:

(1) Determine if weather observation report is required

(2) Determine if supplemental data is required

(3) Request PIREP

(4) Receive supplemental data

(5) Make weather observation report

(6) Transmit weather observation report

(7) Receive and enter weather information

(8) Store weather information

Critical Performance Parameters:

(1) Timeliness

(2) Utility

(3) Flexibility

(4) Availability

(5) Validity

(6) Completeness

(7) Renewal rate

(8) Capacity

Allocation Sensitivities:

INPUTS: (1) From exogenous sources:

- Weather sensors data
- Weather observation report schedule
- Weather observation report criteria
- Weather transmission schedule
- Position and movement of severe weather phenomena
- Weather sequences
- Weather forecasts
- Weather charts
- Weather route summaries
- Time stimulus

(2) From the aircraft:

- PIREPs

(3) From Subfunction 6.1, Determine Present Position:

- Correlated position and identification

TASK DESCRIPTION

FILE: 17.1.1
TASK: Determine if Weather Observation Report is Required
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: (1) Weather observation report required

(2) Weather observation report not required

DESCRIPTION:

Purpose: To determine if a weather observation report is required

Stimulus: Event-stimulated by receipt of an unsolicited PIREP which requires a special observation report, or by detection of a weather parameter increasing or decreasing beyond predetermined limits; time-stimulated by a schedule based on an agreement which requires weather observation reports at specified times

Decisions and Actions:

(1) Determine if weather values have changed sufficiently to require a special observation report

(2) Determine if unsolicited PIREPs require a special observation report

(3) Determine if regularly scheduled observation report is due

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Timeliness

(2) Utility

Performance Capability Required:

(1) Decision making:

- Comparison with standard
- Selection/choice

(2) Monitoring:

- Watch-keeping

(3) Sensing:

- Recognition of descrete change

(4) Information processing:

- Analysis

(5) Interpreting:

- Classification

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From exogenous sources:

- Weather sensors data
- Weather observation report schedule

(2) From the aircraft:

- PIREP's

TASK DESCRIPTION

FILE: 17.1.2
TASK: Determine if Supplemental Data is Required
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Supplemental weather data required

(2) Supplemental weather data not required

DESCRIPTION:

Purpose: To determine if additional information is necessary to compile a weather observation report

Stimulus: Event-stimulated by the decision that a weather observation report is required (Task 17.1.1)

Decisions and Actions:

(1) Determine elements of weather data available

(2) Determine additional elements required that could be furnished by an aircraft

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Utility

(2) Flexibility

(3) Timeliness

Performance Capability Required:

(1) Decision making:

- Deduction

(2) Responding:

- Regulation of processes

(3) Information processing:

- Calculation

(4) Interpreting:

- Association
- Classification

(5) Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.1.1, Determine if Weather Observation Report is Required:

- Weather observation report required

(2) From exogenous source:

- Weather observation report criteria

TASK DESCRIPTION

FILE: 17.1.3
TASK: Request PIREP*
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Request for PIREP

DESCRIPTION:

Purpose: To request supplementary information from selected aircraft to assist in the compilation of a weather observation report

Stimulus: Event-stimulated by determination that supplemental data is needed (Task 17.1.2)

Decisions and Actions:

(1) Determine appropriate available aircraft to request PIREP information

(2) Transmit request for supplemental information to the appropriate aircraft

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Timeliness

(2) Availability

(3) Utility

Performance Capability Required:

(1) Decision making:

- Identification of alternatives
- Selection/choice

(2) Responding:

- Communication

(3) Information processing:

- Encoding/decoding

* Pilot weather report

(4) Interpreting:

- Association

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 6.1.1, Receive and Enter Correlated Position and Identification (or Task 6.1.3 or 6.1.5):

- Correlated position and identification

(2) From Task 17.1.2, Determine if Supplemental Data is Required:

- Supplemental weather data required

TASK DESCRIPTION

FILE: 17.1.4
TASK: Receive Supplemental Data
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: (1) No response

(2) Supplemental weather data (pilot report)

DESCRIPTION:

Purpose: To receive supplemental data from aircraft for compilation of a weather observation report

Stimulus: Event-stimulated by receipt of a PIREP

Decisions and Actions:

Receive supplemental information

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Utility

(2) Validity

(3) Availability

Performance Capability Required:

(1) Information processing:

- Encoding/decoding

(2) Monitoring:

- Watch-keeping

(3) Sensing:

- Signal recognition

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From the aircraft:

- PIREP

(2) From 17.1.3, Request PIREP:

- Request for PIREP

TASK DESCRIPTION

FILE: 17.1.5
TASK: Make Weather Observation Report
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Weather observation report

DESCRIPTION:

Purpose: To compile a weather observation report

Stimulus: Event-stimulated by determination that weather observation report is required (Task 17.1.1)

Decisions and Actions:

(1) Observe all elements required for a weather observation report

(2) Record all elements required for a weather observation report

(3) Receive and record supplemental data pertinent to weather observation report

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Timeliness

(2) Completeness

Performance Capability Required:

(1) Decision making:

- Deduction

(2) Information processing:

- Encoding

(3) Sensing:

- Signal recognition

(4) Interpreting:

- Association
- Classification

(5) Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.1.1, Determine if Weather Observation Report is Required:

- Weather observation report required

(2) From Task 17.1.4, Receive Supplemental Data:

- Supplemental Data
- No response

(3) From exogenous source:

- Weather sensors
- Weather observation report schedule

(4) From Task 17.1.2, Determine if Supplemental Data is Required:

- Supplemental data not required

TASK DESCRIPTION

FILE: 17.1.6
TASK: Transmit Weather Observation Report
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Transmitted weather observation report

DESCRIPTION:

Purpose: To transmit the weather observation report

Stimulus: Event-stimulated by preparation of a weather observation report (Task 17.1.5)

Decisions and Actions:

Transmit weather observation report

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Timeliness

(2) Availability

Performance Capability Required:

(1) Responding:

- Data transmission

(2) Information processing:

- Encoding/decoding

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.1.5, Make Weather Observation Report:

- Weather observation report

(2) From exogenous source:

- Weather report transmission schedule

TASK DESCRIPTION

FILE: 17.1.7
TASK: Receive and Enter Weather Information
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Weather sequences

(2) Position and movement of severe weather phenomena

(3) Weather forecasts

(4) Route summaries

(5) Weather charts

DESCRIPTION:

Purpose: To receive and enter weather sequences, position and movement of severe weather phenomena, forecasts, route summaries, and charts

Stimulus: Event-stimulated by the receipt of weather information

Decisions and Actions:

(1) Receive weather information

(2) Enter weather information

Phase of Flight:

Not applicable

Critical Performance Parameters:

Renewal rate

Performance Capability Required:

Information processing:

- Encoding/decoding

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From exogenous sources:

- Position and movement of severe weather phenomena
- Weather sequences
- Weather forecasts
- Weather charts
- Weather route summaries

(2) From 17.1.6, Transmit Weather Observation Report:

- Transmitted weather observation report

TASK DESCRIPTION

FILE: 17.1.8
TASK: Store Weather Information
SUBFUNCTION: Determine Current and Forecast Weather
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Stored weather sequences
(2) Stored severe weather phenomena data
(3) Stored weather forecasts
(4) Stored route summaries
(5) Stored weather charts

DESCRIPTION:

Purpose: To store weather data

Stimulus: Event-stimulated by receipt of weather data (Task 17.1.7)

Decisions and Actions:

Store appropriate weather data

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Capacity
(2) Completeness

Performance Capability Required:

Storing and retrieving information:

- Short-term memory

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.1.7, Receive and Enter Weather Information:

- Position and movement of severe weather phenomena
- Weather sequences
- Weather forecasts
- Weather route summaries
- Weather charts

SUBFUNCTION DESCRIPTION

FILE: 17.2
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Stored data base item (rules and procedures)
(2) Purged data
(3) New data base item (rules and procedures)

DESCRIPTION:

Purpose: To update rules and procedures data base items - includes purging, modification or adding new items and storing the affected data

Stimulus: Event-stimulated by receipt of rules and procedures change information

Tasks:
(1) Determine data base item affected
(2) Retrieve affected item
(3) Determine change required
(4) Purge affected item
(5) Format new data base item
(6) Store data base item

Critical Performance Parameters:
(1) Validity
(2) Completeness
(3) Accuracy
(4) Timeliness
(5) Capacity

Allocation Sensitivities:

INPUTS: From exogenous source:

- Rules and procedures change information

TASK DESCRIPTION

FILE: 17.2.1
TASK: Determine Data Base Item Affected
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Index of affected rules and procedures data base item

DESCRIPTION:

Purpose: To determine the particular data base item(s) affected by the change

Stimulus: Event-stimulated by receipt of a rules and procedures change

Decisions and Actions:

(1) Examine content of change

(2) Determine identifier or index of the data base items affected

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Interpreting:

- Classification

(2) Decision making:

- Selection/choice

(3) Information processing:

- Analyses

Allocation Sensitivities:

External Constraints:

INPUTS: From exogenous source:

- Rules and procedures change information

TASK DESCRIPTION

FILE: 17.2.2
TASK: Retrieve Affected Data Base Item
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Affected rules and procedures data base item

DESCRIPTION:

Purpose: To retrieve the affected data base item from storage

Stimulus: Event stimulated by determination of the rules and procedures data base item affected (Task 17.2.1)

Decisions and Actions:

Retrieve the item(s) identified in Task 17.2.1

Phase of Flight:

Not applicable

Critical Performance Parameters:

Completeness

Performance Capability Required:

Storing and Retrieving Information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.2.1 Determine Data Base Item Affected:

- Index of affected rules and procedures data base item

(2) From 17.2.6, Store Data Base Items:

- Stored data base items (rules and procedures)

TASK DESCRIPTION

FILE: 17.2.3
TASK: Determine Required Change to the Data Item
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Purge rules and procedures data base item

(2) Modify rules and procedures data base item

(3) Add rules and procedures data base item

DESCRIPTION:

Purpose: To determine the type change that must be made to the affected data base item

Stimulus: Event-stimulated, by retrieval of the rules and procedures data base item affected (Task 17.2.2)

Decisions and Actions:

(1) Compare submitted change with old data base item

(2) Determine type of change to be affected:

- Purge old data base item
- Modify old data base item
- Add new data base item

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Accuracy

(2) Completeness

Performance Capability Required:

(1) Decision making:

- Comparison with standard
- Selection/choice

(2) Interpreting:

- Classification

(3) Information processing:

- Sorting

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From exogenous source:

- Rules and procedures change information

(2) From Task 17.2.2, Retrieve Affected Data Base Item:

- Affected rules and procedures data base item

TASK DESCRIPTION

FILE: 17.2.4
TASK: Purge Affected Data Base Item
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Purged rules and procedures data

DESCRIPTION:

Purpose: To eliminate from the data base, information which is no longer required, or correct

Stimulus: Event-stimulated by determination of the rules and procedures data base item to be purged (Task 17.2.3)

Decisions and Actions:

(1) Confirm that the affected item is no longer valid or required

(2) Discard the item of information

Phase of Flight:

Not applicable

Critical Performance Parameters:

Validity

Performance Capability Required:

(1) Storing and retrieving information:

- Purging

(2) Decision making:

- Selection/choice

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.2.3, Determine Required Change to the Data Base Item:

- Purge rules and procedures data base item

(2) From Task 17.2.2, Retrieve Affected Data Base Item:

- Affected rules and procedures data base item

TASK DESCRIPTION

FILE: 17.2.5
TASK: Format New Data Base Item
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: New rules and procedures data base item

DESCRIPTION:

Purpose: To format a new data base item based on a received change, and the determination made to add or modify the old data base item

Stimulus: Event-stimulated by determination that a rules and procedures data base item must be modified or a new item added to the data base (Task 17.2.3)

Decisions and Actions:

Change data base item to reflect rules and procedures

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Accuracy

(2) Timeliness

Performance Capability Required:

(1) Information Processing:

- Encoding

(2) Interpreting:

- Classification

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.2.2, Retrieve Affected Data Base Item:

- Affected rules and procedures data base item

(2) From Task 17.2.3, Determine Required Change to the Data Base Item:

- Add rules and procedures data base item
- Modify rules and procedures data base item

(3) From exogenous source:

- Rules and procedures change information

TASK DESCRIPTION

FILE: 17.2.6
TASK: Store Data Base Item
SUBFUNCTION: Update Rules and Procedures Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Stored rules and procedures data base items

DESCRIPTION:

Purpose: To preserve rules and procedures data base items for expected future use

Stimulus: Event-stimulated by formulation of a new or modified rules and procedures data base item (Task 17.2.5)

Decisions and Actions:

Not applicable

Critical Performance Parameters:

(1) Capacity

(2) Completeness

Performance Capability Required:

(1) Interpreting:

- Classification

(2) Storing and retrieving information:

- Long-term memory

Allocation Sensitivities:

External Constraints:

INPUTS: From Task 17.2.5, Format New Data Base Item:

- New rules and procedures data base item

SUBFUNCTION DESCRIPTION

FILE: 17.3
SUBFUNCTION: Update Airspace Structure and Jurisdictional Boundary Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Stored data base item (airspace structure and jurisdiction boundary information)

(2) Purged data

(3) New data base item (airspace structure and jurisdictional boundary information)

DESCRIPTION:

Purpose: To update airspace structure and jurisdictional boundary data base items - includes purging, modification or adding new items and storing the affected data

Stimulus: Event-stimulated by receipt of airspace structure and jurisdictional boundary change information

Tasks:

(1) Determine data base item affected

(2) Retrieve affected item

(3) Determine change required

(4) Purge affected item

(5) Format new data base item

(6) Store data base item

Critical Performance Parameters:

(1) Validity

(2) Completeness

(3) Accuracy

(4) Timeliness

(5) Capacity

Allocation Sensitivities:

INPUTS: From exogenous source:

- Airspace structure and jurisdictional boundary change information

TASK DESCRIPTION

FILES: 17.3.1, 17.3.2, 17.3.3, 17.3.4, 17.3.5, 17.3.6

NOTE: These tasks of Subfunction 17.3 are identical to the corresponding tasks of Subfunction 17.2 except that the tasks of Subfunction 17.3 deal with airspace structure and jurisdictional boundary information instead of rules and procedures information. The task descriptions in Files 17.2.1 through 17.2.6 will serve as the task descriptions for Files 17.3.1 through 17.3.6 provided that in each instance where the phase "rules and procedures" is used in Tasks 17.2.1 through 17.2.6 the phrase "airspace structure and jurisdictional boundary" is substituted and the associated task numbers are corrected accordingly. Therefore, separate task descriptions will not be included for Files 17.3.1 through 17.3.6

SUBFUNCTION DESCRIPTION

FILE: 17.4
SUBFUNCTION: Update Route Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Stored data base item (route information)
(2) Purged data
(3) New data base item (route information)

DESCRIPTION:

Purpose: To update route data base items - includes purging, modification, or adding new items and storing the affected data

Stimulus: Event-stimulated by receipt of route change information

Tasks:
(1) Determine data base item affected
(2) Retrieve affected item
(3) Determine change required
(4) Purge affected item
(5) Format new data base item
(6) Store data base item

Critical Performance Parameters:
(1) Validity
(2) Completeness
(3) Accuracy
(4) Timeliness
(5) Capacity

Allocation Sensitivities:

INPUTS: From exogenous source:

- Route change information

TASK DESCRIPTION

FILES: 17.4.1, 17.4.2, 17.4.3, 17.4.4, 17.4.5, 17.4.6

NOTE: These tasks of Subfunction 17.4 are identical to the corresponding tasks of Subfunction 17.2 except that the tasks of Subfunction 17.4 deal with route information instead of rules and procedures. The Task Descriptions in Files 17.2.1 through 17.2.6 will serve as the Task Descriptions for Files 17.4.1 through 17.4.6, provided that in each instance where the phrase "rules and procedures" is used in Files 17.2.1 through 17.2.6 the phrase "route information" is substituted and the associated task numbers are corrected accordingly. Therefore, separate Task Descriptions will not be included for Files 17.4.1 through 17.4.6.

SUBFUNCTION DESCRIPTION

FILE: 17.5
SUBFUNCTION: Update Airspace Restriction Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Stored data base item (airspace restrictions)
(2) Purged data
(3) New data base item (airspace restrictions)

DESCRIPTION:

Purpose: To update airspace restriction data base items - includes purging, modifications, or adding new items and storing the affected data

Stimulus: Event-stimulated by receipt of airspace restriction change information

Tasks:
(1) Determine data base item affected
(2) Retrieve affected item
(3) Determine change required
(4) Purge affected item
(5) Format new data base item
(6) Store data base item

Critical Performance Parameters:
(1) Validity
(2) Completeness
(3) Accuracy
(4) Timeliness
(5) Capacity

Allocation Sensitivities:

INPUTS:
(1) From exogenous source:
- Airspace restriction change information

(2) From Subfunction 15.2, Initiate Action to Provide Service:

- Definition of area of restrictions

(3) From Subfunction15.1, Determine Nature of Service Required:

- Special service no longer required

TASK DESCRIPTION

FILES: 17.5.1, 17.5.2, 17.5.3, 17.5.4, 17.5.5, 17.5.6

NOTE: These tasks of Subfunction 17.5 are identical to the corresponding tasks of Subfunction 17.2 except that the tasks of Subfunction 17.5 deal with airspace restriction information instead of rules and procedures. The Task Desdriptions in Files 17.2.1 through 17.2.6 will serve as the Task Descriptions for Files 17.5.1 through 17.5.6, provided that in each instance where the phrase "rules and procedures" is used in Files 17.2.1 through 17.2.6 the phrase "airspace restriction" is substituted, the task numbers are corrected to reflect this substitution, and the following inputs are added to Files 17.4.1, 17.4.3, and 17.5.5:

(1) From Task 15.2.2, Establish Area of Restriction:

- Definition of area of restriction

(2) From Task 15.1.2, Monitor Progress of Services:

- Special service no longer required

Therefore, separate Task Descriptions will not be included for Files 17.5.1 through 17.5.6.

SUBFUNCTION DESCRIPTION

FILE: 17.6
SUBFUNCTION: Update Hazards to Flight Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Stored data base item (flight hazards information)
(2) Purged data
(3) New data base item (flight hazards information)

DESCRIPTION:

Purpose: To update hazards to flight data base item - includes purging, modification, or adding new items and storing the affected data

Stimulus: Event-stimulated by receipt of hazards to flight change information

Tasks:
(1) Determine data base item affected
(2) Retrieve affected item
(3) Determine change required
(4) Purge affected item
(5) Format new data base item
(6) Store data base item

Critical Performance Parameters:
(1) Validity
(2) Completeness
(3) Accuracy
(4) Timeliness
(5) Capacity

Allocation Sensitivities:

INPUTS: From exogenous source:

- Hazards to flight change information

TASK DESCRIPTION

FILES: 17.6.1, 17.6.2, 17.6.3, 17.6.4, 17.6.5, 17.6.6

NOTE: These tasks of Subfunction 17.6 are identical to the corresponding tasks of Subfunction 17.2 except that the tasks of Subfunction 17.6 deal with hazards to flight in instead of rules and procedures. The Task Descriptions in Files 17.2.1 through 17.2.6 will serve as the Task Descriptions for Files 17.6.1 through 17.6.6, provided in each instance where the phrase "rules and procedures" is used in Files 17.2.1 through 17.2.6 the phrase "hazards to flight" is substituted and the associated task numbers are corrected assordingly. Therefore, separate Task Descriptions will not be included for Files 17.6.1 through 17.6.6.

SUBFUNCTION DESCRIPTION

FILE: 17.7
SUBFUNCTION: Determine Capability and Status of COMM-NAV System
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Stored data base item (COMM-NAV system status)

(2) No change in status

(3) New data base item (COMM-NAV system status)

DESCRIPTION:

Purpose: To determine and maintain current information describing the status and capability of the COMM-NAV system and to activate standby equipment when required

Stimulus: Event-stimulated by COMM-NAV system status change indications

Tasks:

(1) Monitor COMM and NAV systems for status change

(2) Activate standby equipment

(3) Retrieve affected data base item

(4) Format new data base item

(5) Store data base item

Critical Performance Parameters:

(1) Timeliness

(2) Speed

(3) Availability

(4) Utility

(5) Completeness

(6) Accuracy

(7) Capacity

Allocation Sensitivities:

INPUTS: From the pilot or exogenous source:

- NAV equipment status
- COMM equipment status

TASK DESCRIPTION

FILE: 17.7.1
TASK: Monitor COMM and NAV Systems for Status Change
SUBFUNCTION: Determine Capability and Status of COMM-NAV System
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) No change in COMM system status

(2) COMM system status change

(3) COMM system status change index

(4) No change in NAV system status

(5) NAV system status change

(6) NAV system status change index

DESCRIPTION:

Purpose: To monitor the COMM and NAV systems to ascertain if any status changes have occurred

Stimulus: Event-stimulated by receipt of aircraft or exogenous status reports

Decisions and Actions:

(1) Monitor for signal (or report)

(2) Detect signal

(3) Interpret signal - decode or transform as required

(4) Enter change into the system

Phase of Flight:

Not applicable

Critical Performance Parameters:

Timeliness

Performance Capability Required:

(1) Monitoring:

- Watch keeping

(2) Information processing:

- Decoding-encoding

(3) Responding:

- Data transmission

(4) Sensing:

- Signal detection
- Signal recognition

(5) Interpreting:

- Classification

(6) Decision making:

- Deduction

Allocation Sensitivities:

External Constraints:

INPUTS: From exogenous source or aircraft:

- COMM equipment status
- NAV equipment status

TASK DESCRIPTION

FILE: 17.7.2
TASK: Activate Standby Equipment
SUBFUNCTION: Determine Capability and Status of COMM-NAV System
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) COMM-NAV standby equipment activation not required

(2) COMM-NAV standby equipment activated

DESCRIPTION:

Purpose: To activate the standby component if available and required

Stimulus: Event-stimulated by COMM or NAV system status change (Task 17.7.1)

Decisions and Actions:

(1) Determine which component of COMM system has failed

(2) Determine which component of NAV system has failed

(3) Determine if standby equipment was automatically activated

(4) Activate standby equipment if available and required

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Speed

(2) Availability

(3) Utility

Performance Capability Required:

(1) Responding:

- Operation of controls

(2) Interpreting:

- Classification

(3) Decision making:

- Induction/inference/deduction

(4) Sensing:

- Signal recognition

(5) Information processing:

- Calculation

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.7.1, Monitor COMM and NAV Systems For Status Change:

- COMM system status change
- NAV system status change

TASK DESCRIPTION

FILE: 17.7.3
TASK: Retrieve Affected Data Base Item
SUBFUNCTION: Determine Capability and Status of COMM-NAV System
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Affected data base item (COMM-NAV system status)

DESCRIPTION:

Purpose: To retrieve affected data base item from storage

Stimulus: Event-stimulated by COMM or NAV system status change (Task 17.7.1)

Decisions and Actions:

(1) Select appropriate data base item

(2) Retrieve appropriate data base item

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Completeness

(2) Accuracy

Performance Capability Required:

(1) Storing and retrieving information:

- Selective retrieval/recall

(2) Decision making:

- Selection/choice

(3) Interpreting:

- Association

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.7.2, Activate Standby Equipment:

- COMM-NAV standby equipment activation not required
- COMM-NAV standby equipment activated

(2) From Task 17.7.1, Monitor COMM and NAV Systems for Status Change:

- COMM system status change index
- NAV system status change index

(3) From Task 17.7.5, Store Data Base Item:

- Stored data base item (COMM-NAV system status)

TASK DESCRIPTION

FILE: 17.7.4
TASK: Format Data Base Item
SUBFUNCTION: Determine Capability and Status of COMM-NAV System
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: New data base item (COMM-NAV system status)

DESCRIPTION:

Purpose: To format a new data base item based on a status change in the COMM or NAV systems

Stimulus: Event-stimulated by retrieval of the affected COMM-NAV system status data base item (Task 17.7.3)

Decisions and Actions:

(1) Compare status change with data base item

(2) Change old data base item to reflect status change

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Accuracy

(2) Timeliness

Performance Capability Required:

(1) Decision making:

- Comparison of alternatives

(2) Information processing:

- Encoding/decoding
- Merging

(3) Interpreting:

- Association

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.7.3, Retrieve Affected Data Base Item:

- Affected data base item (COMM-NAV system status)

(2) From Task 17.7.2, Activate Standby Equipment:

- COMM-NAV standby equipment activated
- COMM-NAV standby equipment activation not required

(3) From Task 17.7.1, Monitor COMM and NAV Systems for Status Change:

- COMM system status change
- NAV system status change

TASK DESCRIPTION

FILE: 17.7.5
TASK: Store Data Base Item
SUBFUNCTION: Determine Capability and Status of COMM-NAV System
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Stored data base items (COMM-NAV system status)

DESCRIPTION:

Purpose: To store COMM and NAV systems data base items

Stimulus: Event-stimulated by formulation of a new COMM-NAV system status data base item (Task 17.7.4)

Decisions and Actions:

Store appropriate COMM or NAV system data base items

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Capacity

(2) Utility

Performance Capability Required:

Storing and retrieving:

- Short-term memory
- Long-term memory

Allocation Sensitivities:

External Constraints:

INPUTS: From Task 17.7.4, Format New Data Base Item:

- New data base item (COMM-NAV system status)

SUBFUNCTION DESCRIPTION

FILE: 17.8
SUBFUNCTION: Determine Capability and Status of Ground Facilities
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Stored data base item (ground facilities status)
(2) No change in status
(3) New data base item (ground facilities status)

DESCRIPTION:

Purpose: To maintain current status and capability of ground facilities and to activate standby equipment when required

Stimulus: Event-stimulated by receipt of a Ground Facility Status change

Tasks:
(1) Monitor gronnd facilities for status change
(2) Activate standby equipment
(3) Retrieve affected data base item
(4) Format new data base item
(5) Store data base item

Critical Performance Parameters:
(1) Timeliness
(2) Speed
(3) Availability
(4) Utility
(5) Completeness
(6) Accuracy
(7) Capacity

Allocation Sensitivities:

INPUTS: From the pilot or exogenous source:

- Ground facilities status

TASK DESCRIPTION

FILE: 17.8.1
TASK: Monitor Ground Facilities for Status Change
SUBFUNCTION: Determine Capability and Status of Ground Facilities
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) No change in status of ground facilities

(2) Ground facilities status change

(3) Ground facilities status change index

DESCRIPTION:

Purpose: To monitor ground facilities to ascertain if any status changes have occurred

Stimulus: Event-stimulated by receipt of aircraft or exogenous ground facilities status reports

Decisions and Actions:

(1) Monitor for signal (or report)

(2) Detect signal

(3) Interpret signal - decode or transform as required

(4) Enter change into the system

Phase of Flight:

Not applicable

Critical Performance Parameters:

Timeliness

Performance Capability Required:

(1) Monitoring:

- Watch keeping

(2) Information processing:

- Decoding/encoding

(3) Responding:

- Data transmission

(4) Sensing:

- Signal detection
- Signal recognition

(5) Interpreting:

- Interpolation

Allocation Sensitivities:

External Constraints:

To the manner (e.g., electronic signal, voice, etc) in which the information is reported

INPUTS: From aircraft or exogenous sources:

- Ground facilities status

TASK DESCRIPTION

FILES: 17.8.2, 17.8.3, 17.8.4, 17.8.5

NOTE: These tasks of Subfunction 17.8 are identical to the corresponding tasks of Subfunction 17.7 except that the tasks of Subfunction 17.8 deal with ground facilities status instead of COMM-NAV system status. The Task Descriptions in Files 17.7.2 through 17.7.5 will serve as the Task Descriptions for Files 17.8.2 through 17.8.5 provided in each instance where the phrase "COMM-NAV system," "COMM system," or "NAV system" is used in Files 17.7.2 through 17.7.5 the phrase "ground facilities" is substituted and the associated task numbers are corrected accordingly. Therefore, separate Task Descriptions will not be included for Files 17.8.2 through 17.8.5.

SUBFUNCTION DESCRIPTION

FILE: 17.9
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Stored user class data base item

(2) Purged data

(3) New user class data base item

DESCRIPTION:

Purpose: To maintain user class information includes purging, modification, or adding new items and storing the affected data

Stimulus: Event-stimulated by receipt of pilot qualification changes aircraft capability changes, or avionics changes

Tasks:

(1) Receive and index user class information changes

(2) Retrieve affected data base item

(3) Determine change required

(4) Purge affected item

(5) Format user class data base item

(6) Store user class data base item

Critical Performance Parameters:

(1) Capacity

(2) Completeness

(3) Accuracy

(4) Timeliness

Allocation Sensitivities:

INPUTS: From exogenous source:

- Pilot qualification change
- Aircraft capability change
- Avionics change

TASK DESCRIPTION

FILE: 17.9.1
TASK: Receive and Index User Class Information
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: (1) User class information/changes

(2) User class information index

DESCRIPTION:

Purpose: To receive user class information changes

Stimulus: Event-stimulated by receipt of user class information or information change

Decisions and Actions:

(1) Receive information

(2) Interpret information

(3) Determine category (index) of user class information involved

Phase of Flight:

Not applicable

Critical Performance Parameters:

Capacity

Performance Capability Required:

(1) Monitoring:

- Watch keeping

(2) Interpreting:

- Classification

(3) Sensing:

- Signal recognition

(4) Information processing:

- Analysis

(5) Decision making:

- Selection/choice

Allocation Sensitivities:

External Constraints:

INPUTS: From exogenous source:

- Pilot qualification/qualification changes
- Aircraft capability/capability changes
- Avionics/avionics changes

TASK DESCRIPTION

FILE: 17.9.2
TASK: Retrieve Affected Data Base Item
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: (1) Affected user class data base item

(2) No affected user class data base item

DESCRIPTION:

Purpose: To retrieve affected user class data base item from storage

Stimulus: Event-stimulated by indexing a user class information addition or change (Task 17.9.1)

Decisions and Actions:

(1) Select appropriate item

(2) Retrieve item

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Completeness

(2) Accuracy

Performance Capability Required:

Storing and retrieving information:

- Selective retrieval/recall

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.9.1, Receive and Index User Class Information:

- User class information index

(2) From Task 17.9.6, Store User Class Data Base Item:

- Stored user class data base item

TASK DESCRIPTION

FILE: 17.9.3
TASK: Determine Change Required
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Purge user class data base item
(2) Modify user class data base item
(3) Add user class data base item

DESCRIPTION:

Purpose: To determine the type change to be affected to the data base item

Stimulus: Event-stimulated by retrieval of the affected user class data base item (Task 17.9.2)

Decisions and Actions:

(1) Compare submitted information with old data base item
(2) Determine type change to be affected:
- Purge old data base item
- Modify old data base item
- Add a new data base item

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Accuracy
(2) Completeness

Performance Capability Required:

(1) Decision making:
- Comparison with standard
- Selection/choice

(2) Interpreting:

- Classification

(3) Information processing:

- Sorting

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.9.1, Receive and Index User Class Information:

- User class information/change

(2) From Task 17.9.2, Retrieve Affected Data Base Item:

- Affected user class data base
- No affected user class data base item

TASK DESCRIPTION

FILE: 17.9.4
TASK: Purge Affected User Class Data Base Item
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Purged user class data

DESCRIPTION:

Purpose: To purge user class data base information as required

Stimulus: Event-stimulated by determination that purging of the affected data base item is the change required (Task 17.9.3)

Decisions and Actions:

Purge affected item

Phase of Flight:

Not applicable

Critical Performance Parameters:

Timeliness

Performance Capability Required:

Storing and retrieving information:

- Purging

Allocation Sensitivities:

External Constraints:

INPUTS: (1) From Task 17.9.3, Determine Change Required:

- Purge user class data base item

(2) From Task 17.9.2, Retrieve Affected Data Base Item:

- Affected user class data base item

TASK DESCRIPTION

FILE: 17.9.5
TASK: Format User Class Data Base Item
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: New modified user class data base item

DESCRIPTION:

Purpose: To format a new or modified user class data base item based on the determination that the user class information received requires either of these actions

Stimulus: Event-stimulated by determination that a new item must be added or an existing item modified (Task 17.9.3)

Decisions and Actions:

(1) Compile new data base item

(2) Change existing data base item to reflect new information received

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Accuracy

(2) Timeliness

Performance Capability Required:

(1) Information processing:

- Encoding/decoding
- Merging

(2) Interpreting:

- Classification

Allocation Sensitivities:

External Constraints:

INPUTS:

(1) From Task 17.9.1, Receive and Index User Class Information:

- User class information/changes

(2) From Task 17.9.2, Retrieve Affected Data Base Item:

- Affected user class data base
- No affected user class data base item

(3) From Task 17.9.3, Determine Change Required:

- Modify user class data base item
- Add user class data base item

TASK DESCRIPTION

FILE: 17.9.6
TASK: Store User Class Data Base Item
SUBFUNCTION: Maintain User Class Information
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Stored user class data base items

DESCRIPTION:

Purpose: To store user class data base items for subsequent retrieval and use

Stimulus: Event-stimulated by formulation of a new or modified user class data base

Decisions and Actions:

Store user class data base items

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Capacity

(2) Completeness

(3) Timeliness

Performance Capability Required:

Storing and retrieving:

- Long-term memory
- Short-term memory

Allocation Sensitivities:

External Constraints:

INPUTS: From Task 17.9.5, Format User Class Data Base Item:

- New modified user class data base item

SUBFUNCTION DESCRIPTION

FILE: 17.10
SUBFUNCTION: Compile Traffic Data
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:
(1) Active flight plan count
(2) ETA's and ETD's by destination and origin
(3) ETOV's by jurisdictional boundary
(4) Stored traffic data

DESCRIPTION:

Purpose: To compile and store an active flight plan count and specific events by specified periods

Stimulus: Event-stimulated by receipt of an accepted flight plan or a flight plan closure

Tasks:
(1) Maintain tallies of active flight plans
(2) Count events by specified periods
(3) Store traffic data

Critical Performance Parameters:
(1) Accuracy
(2) Capacity
(3) Renewal rate
(4) Utility
(5) Completeness

Allocation Sensitivities:

INPUTS:
(1) From Subfunction 4.4, Determine Responsibility for Control and Communication:
- Accepted flight plan

(2) From Subfunction 7.2, Determine Current Deviations from Flight Plan:
- Closed flight plan

(3) From exogenous source:

- Event counting criteria

TASK DESCRIPTION

FILE: 17.10.1
TASK: Maintain Tallies of Active Flight Plans
SUBFUNCTION: Compile Traffic Summaries
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Active flight plan count

DESCRIPTION:

Purpose: To maintain a record of active flight plans within the system

Stimulus: Event-stimulated by receipt of a new flight plan (Task 4.4.1) or a flight plan closure (Task 7.2.2)

Decisions and Actions:

(1) Update tally to reflect new flight plan

(2) Update tally to reflect flight plan closure

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Accuracy

(2) Capacity

Performance Capability Required:

(1) Information processing:

- Calculation

(2) Storing and retrieving information:

- Short-term memory
- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 4.4.1, Receive and Enter Pilot's Response:

- Accepted flight plan

(2) From Task 7.2.2, Compute Deviations Between Aircraft's Intended and Actual Present Position:

- Closed flight plan

TASK DESCRIPTION

FILE: 17.10.2
TASK: Compile ETD's, ETOV's and ETA's
SUBFUNCTION: Compile Traffic Summaries
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) ETA's and ETD's by destinations and origins

(2) Jurisdictional ETOV's

DESCRIPTION:

Purpose: To maintain ETD's, ETOV's and ETA's by origin, jurisdiction and destination

Stimulus: Event-stimulated by receipt of an accepted flight plan (Task 4.4.1) and time-stimulated (by passage of the time period to which the data apply)

Decisions and Actions:

(1) Tally ETA's by destination and time period

(2) Tally ETD's by departure point and time period

(3) Tally ETOV's by jurisdictional boundaries and time period

(4) Purge obsolete data

Phase of Flight:

Not applicable

Critical Performance Parameters

(1) Capacity

(2) Renewal rate

(3) Utility

Performance Capability Required:

(1) Information processing:

- Calculation

(2) Storing and retrieving information:

- Short-term memory
- Selective retrieval/recall

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From Task 4.4.1, Receive and Enter Pilot's Response:

- Accepted flight plan

(2) From Task 17.3.6, Store Data Base Item:

- Stored data base item (airspace structure and jurisdictional boundary)

TASK DESCRIPTION

FILE: 17.10.3
TASK: Store Traffic Data
SUBFUNCTION: Compile Traffic Data
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: Stored traffic data

DESCRIPTION:

Purpose: To store traffic data

Stimulus: Event-stimulated by receipt of traffic data from Tasks 17.10.1 or 17.10.2

Decisions and Actions:

Store appropriate traffic data

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Capacity

(2) Completeness

Performance Capability Required:

Storing and retrieving information:

- Long-term memory
- Short-term memory

External Constraints:

Allocation Sensitivities

INPUTS: (1) From Task 17.10.2, Compile ETD's, ETOV's and ETA's:

- ETA's and ETD's by destinations and origins
- Jurisdictional ETOV's

(2) From Task 17.10.1, Maintain Tallies of Active Flight Plans:

- Active flight plan count

SUBFUNCTION DESCRIPTION

FILE: 17.11
SUBFUNCTION: Prepare Preformatted Data Modules
FUNCTION: Maintain System Capability and Status Information

OUTPUS:

(1) Printouts (NOTAMS)

(2) Voice tapes

(3) Electronic displays

(4) Data module not required

DESCRIPTION:

Purpose: To prepare preformatted data modules for the use of other functions within the system

Stimulus: Event-stimulated by receipt of any of the listed inputs from 15.2 or 17.1 through 17.10

Tasks:

(1) Determine requirements for preformatted data modules

(2) Compile preformatted data modules

Critical Performance Parameters:

(1) Capacity

(2) Accuracy

(3) Completeness

(4) Timeliness

Allocation Sensitivities:

INPUTS:

(1) From exogenous source:

- Preformatted data module criteria

(2) From Subfunction 15.2, Initiate Action to Provide Service:

- Descriptions of NOTAM requirements

(3) From Subfunction 17.1, Determine Current and Forecast Weather:

- Weather sequences

- Position and movement of severe weather phenomena
- Weather forecasts
- Route summaries
- Weather charts

(4) From Subfunction 17.2, Update Rules and Procedures Information:

- New data base item (rules and procedures)

(5) From Subfunction 17.3, Update Airspace Structure and Jurisdictional Boundary Information:

- New data base item (airspace structure and jurisdiction boundaries information)

(6) From Subfunction 17.4, Update Route Information:

- New data base item (route information)

(7) From Subfunction 17.5, Update Airspace Restriction Information:

- New data base item (airspace restriction information)

(8) From Subfunction 17.6, Update Hazards to Flight Information:

- New data base item (hazards to flight information)

(9) From Subfunction 17.7, Determine Capability and Status of COMM-NAV System:

- New data base item (COMM-NAV system status)

(10) From Subfunction 17.8, Determine Capability and Status of Ground Facilities:

- New data base item (ground facilities status)

(11) From Subfunction 17.9, Maintain User Class Information:

- Stored user class data base item

(12) From Subfunction 17.10, Compile Traffic Data:

- Stored traffic data

TASK DESCRIPTION

FILE: 17.11.1
TASK: Determine Requirement
SUBFUNCTION: Prepare Preformatted Data Modules
FUNCTION: Maintain System Capability and Status Information

OUTPUTS: (1) Type of data module required

(2) Data module not required

DESCRIPTION:

Purpose: To determine if a requirement exists for the formulation of a preformatted data module

Stimulus: Event-stimulated by receipt of any of the listed inputs from Tasks 15.2.6, 17.1.7, 17.2.5, 17.3.5, 17.4.5, 17.5.5, 17.7.4, 17.8.4, 17.9.5 or 17.10.3

Decisions and Actions:

(1) Receive data base items

(2) Compare data base items with preformatted data module requirement criteria

(3) Determine if criteria are met

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Capacity

(2) Accuracy

Performance Capability Required:

(1) Decision making:

- Comparison with standard

(2) Interpretation:

- Classification

(3) Sensing:

- Signal detection
- Signal recognition

(4) Information processing:

- Analysis

(5) Storing and retrieving information:

- Short-term memory

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From exogenous source:

- Preformatted data module criteria

(2) From Task 17.1.7, Receive and Enter Weather Information:

- Weather sequences
- Position and movement of severe weather phenomena
- Weather forecasts
- Route summaries
- Weather charts

(3) From Task 17.2.5, 17.3.5, 17.4.5, 17.5.5, 17.6.5, 17.7.4, and 17.8.4, Format New Data Base Item:

- New data base item*

(4) From Task 17.9.5, Format User Class Data Base Item:

- New user class data base item

(5) From Task 17.10.3, Store Traffic Data:

- Stored traffic data

(6) From Task 15.2.6, Determine Necessity of Issuance of NOTAM Requirements:

- Description of NOTAM requirements

* New data base item, an input from Task 17.2.5, 17.3.5, 17.4.5, 17.5.5, 17.6.5, 17.7.4 and 17.8.4, applies to: rules and procedures, airspace structure and jurisdictional boundary information, route information, flight hazard information, COMM-NAV system, and ground facilities, respectively.

TASK DESCRIPTION

FILE: 17.11.2
TASK: Compile Preformatted Data Modules
SUBFUNCTION: Prepare Preformatted Data Modules
FUNCTION: Maintain System Capability and Status Information

OUTPUTS:

(1) Printouts (NOTAMS)

(2) Voice tapes

(3) Electronic displays

DESCRIPTION:

Purpose: To compile preformatted data modules required for flight planning information and flight advisories

Stimulus: Event-stimulated by determination that a preformatted data module is required (Task 17.11.1)

Decisions and Actions:

(1) Retrieve format

(2) Compile module

Phase of Flight:

Not applicable

Critical Performance Parameters:

(1) Completeness

(2) Timeliness

Performance Capability Required:

(1) Information processing:

- Encoding
- Merging

(2) Storing and retrieving information:

- Short-term memory
- Long-term memory

External Constraints:

Allocation Sensitivities:

INPUTS:

(1) From exogenous source:

- Preformatted data module criteria

(2) From Task 17.1.7, Receive and Enter Weather Information:

- Weather sequences
- Position and movement of severe weather phenomena
- Weather forecasts
- Route summaries
- Weather charts

(3) From Task 17.2.5, 17.3.5, 17.4.5, 17.5.5, 17.6.5, 17.7.4, and 17.8.4; Format New Data Base Item:

- New data base item*

(4) From Task 17.9.5, Format User Class Data Base Item:

- New user class data base item

(5) From Task 17.10.3, Store Traffic Data:

- Stored traffic data

(6) From Task 15.2.6, Determine Necessity of Issuance of NOTAM Requirements:

- Description of NOTAM requirements

(7) From Task 17.11.1, Determine Requirement for Preformatted Data Modules:

- Type of data module required

* New data base item, an input from Task 17.2.5, 17.3.5, 17.4.5, 17.5.5, 17.6.5, 17.7.4 and 17.8.4 applies to: rules and procedures, airspace structure and jurisdictional boundary information, route information, flight hazard information, COMM-NAV system, and ground facilities, respectively.

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.1.1	Weather sensors data	Exog.	Weather observation report required	17.1.2 17.1.5
	*PIREP's	Exog.		
	*Weather observation report schedule	Exog.	Weather observation report not required	END
	*Time stimulus	Exog.		
17.1.2	*Weather observation report required	17.1.1	Supplemental data required	17.1.3
	Weather observation report criteria	Exog.	Supplemental data not required	17.1.5
17.1.3	Correlated position and identification	6.1.1 6.1.3 6.1.5	Request for PIREP	17.1.4 Acft.
	*Supplemental data required	17.1.2		
17.1.4	*PIREP	Exog.	No response	17.1.5
	Request for PIREP	17.1.3	Supplemental weather data (pilot report)	17.1.5
17.1.5	*Weather observation report required	17.1.1	Weather observation report	17.1.6
	Supplemental weather data	17.1.4		
	Weather sensors	Exog.		
	Weather observation report schedule	Exog.		
	No response	17.1.4		
17.1.6	*Weather observation report	17.1.5	Transmitted weather observation report	Exog. 17.1.7
	Weather transmission schedules	Exog.		
17.1.7	*Position and movement of severe weather phenomena	Exog.	Weather sequences	17.1.8 17.11.1 17.11.2
	*Weather sequences	Exog.		
	*Weather forecasts	Exog.	Position and movement of severe weather phenomena	17.1.8 17.11.1 17.11.2
	*Weather charts	Exog.		

*Task stimulus

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.1.7 (cont.d)	*Weather route summaries	Exog.	Weather forecasts	17.1.8 17.11.1 17.11.2
	Transmitted weather observation report	17.1.6		
			Route summaries	17.1.8 17.11.1 17.11.2
			Weather charts	17.1.8 17.11.1 17.11.2
17.1.8	*Position and movement of severe weather phenomena	17.1.7	Stored weather sequences	1.2.2 2.1.2 3.2.1 4.2.2 4.3.1 4.1.2 5.2.2 6.3.3 6.4.3 9.2.1 9.3.2 11.3.1 11.3.3 12.1.4 13.1.5 16.2.6
	*Weather sequences	17.1.7		
	*Weather forecasts	17.1.7		
	*Weather route summaries	17.1.7		
	*Weather charts	17.1.7		
			Stored weather forecasts	1.2.2 2.1.2 3.2.1 4.2.2 4.3.1 4.1.2 5.2.2 6.3.3 6.4.3 9.2.1 9.3.2 11.3.1 11.3.3 12.1.4 13.1.5 16.2.6

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.1.8 (cont'd)			Stored severe weather phenomena	1.2.2 2.1.2 3.2.1 4.3.1 11.1.1 12.3.1 12.3.2
			Stored route summaries	1.2.2 2.1.2 3.2.1 4.3.1
			Stored weather charts	1.2.2 3.2.1 4.3.1
17.2.1	*Rules and procedures change information	Exog.	Index of affected data base items	17.2.2
17.2.2	*Identification of affected data base item	17.2.1	Affected rules and procedures data base item	17.2.3 17.2.4 17.2.5
	Stored data items	17.2.6		
17.2.3	Rules and procedures change information	Exog.	Purge data base item	17.2.4
			Modify data base item	17.2.5
	*Affected data base item	17.2.2	Add data base item	17.2.5
17.2.4	*Purge data base item	17.2.3	Purged data	END
	Affected data base item	17.2.2		
17.2.5	Affected data base item	17.2.2	New data base item	17.2.6 17.11.1 17.11.2
	*Add data base item	17.2.3		
	Modify data base item	17.2.3		
	Rules and procedures change information	Exog.		
17.2.6	*New data base item	17.2.5	Stored data base item	1.2.2 2.1.2 2.1.3 2.1.4 2.1.5 2.1.6

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.2.6 (cont'd)			Stored data base item (cont'd)	3.2.1 4.2.5 4.2.9 4.2.13 4.3.1 4.3.2 5.2.2 8.1.5 8.1.6 8.2.2 9.5.1 12.1.4 13.1.2 13.1.3 13.1.4 13.1.5 14.1.1 14.1.2 14.1.3 15.2.1 15.2.2 15.2.3 15.2.4 15.2.5 15.2.6 17.2.2
17.3.1	*Airspace structure and jurisdictional boundary change information	Exog.	Index of affected data base item	17.2.2
17.3.2	*Identification of affected data base item	17.3.1	Affected data base item	17.3.3 17.3.4 17.3.5
	Stored data base items	17.3.6		
17.3.3	*Affected data base item	17.3.2	Purge data base item	17.3.4
	Airspace structure and jurisdictional boundary change information	Exog.	Modify data base item	17.3.5
			Add data base item	17.3.5
17.3.4	*Purge data base item	17.3.3	Purged data	END
	Affected data base item	17.3.2		

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.3.5	Affected data base item	17.3.2	New data base item	17.3.6 17.11.1 17.11.2
	*Add data base item	17.3.3		
	Modify data base item	17.3.3		
	Airspace structure change information	Exog.		
17.3.6	*New data base item	17.3.5	Stored data base item	3.2.1 4.2.2 4.3.1 4.4.3 4.4.4 13.1.1 13.1.2 13.1.3 13.1.4 13.1.5 13.2.1 13.2.2 17.3.2 17.10.2
17.4.1	*Route change information	Exog.	Index of affected data base item	17.4.2
17.4.2	*Identification of affected data base item	17.4.1	Affected data base item	17.4.3 17.4.4 17.4.5
	Stored data base item	17.4.6		
17.4.3	Route change information	Exog.	Purge data base item	17.4.4
	*Affected data base item	17.4.2	Modify data base item	17.4.5
			Add data base item	17.4.5
17.4.4	*Purge data base item	17.4.3	Purged data	END
	Affected data base item	17.4.2		
17.4.5	Affected data base item	17.4.2	New data base item	17.4.6 17.11.1 17.11.2
	*Add data base item	17.4.3		
	Modify data base item	17.4.3		
	Route change information	Exog.		

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.4.6	*New data base item	17.4.5	Stored data base item	1.2.2 3.2.1 4.2.2 4.3.1 5.2.3 12.1.4 13.1.5 17.4.2
17.5.1	*Airspace restriction change information	Exog.	Index of affected data base item	17.5.2
	*Special service no longer required	15.1.2		
	*Definition of area of restriction	15.2.2		
17.5.2	*Identification of affected data base item	17.5.1	Affected data base item	17.5.3 17.5.4 17.5.5
	Stored data base item	17.5.6		
17.5.3	Route change information	Exog.	Purge data base item	17.5.4
	*Affected data base item	17.5.2	Modify data base item	17.5.5
	Definition of area of restriction	15.2.2	Add data base item	17.5.5
	Special service no longer required	15.1.2		
17.5.4	*Purge data base item	17.5.3	Purged data	END
	Affected data base item	17.5.2		
17.5.5	Affected data base item	17.5.2	New data base item	17.5.6 17.11.1 17.11.2
	*Add data base item	17.5.3		
	Modify data base item	17.5.3		
	Definition of area of restriction	15.2.2		
	Special service no longer required	15.1.2		
	Airspace restriction change information	Exog.		

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.5.6	*New data base item	17.5.5	Stored data base item	2.1.3 3.2.1 4.2.2 4.3.1 13.1.5 17.5.2
17.6.1	*Hazards to flight change information	Exog.	Index of affected data base item	17.6.2
17.6.2	*Identification of affected data base item	17.6.1	Affected data base item	17.6.3 17.6.4 17.6.5
	Stored data base item	17.6.6		
17.6.3	Hazards to flight change information	Exog.	Purge data base item	17.6.4
			Modify data base item	17.6.5
	*Affected data base item	17.6.2	Add data base item	17.6.5
17.6.4	*Purge data base item	17.6.3	Purged data	END
	Affected data base item	17.6.2		
17.6.5	Affected data base item	17.6.2	New data base item	17.6.6 17.11.1 17.11.2
	*Add data base item	17.6.3		
	Modify data base item	17.6.3		
	Hazards to flight change information	Exog.		
17.6.6	*New data base item	17.6.5	Stored data base item	2.1.5 3.2.1 4.2.2 4.3.1 11.1.1 12.1.4 17.6.2 13.1.5
17.7.1	*Comm. equipment status	Exog. Acft	No change in comm. system status	End
	Navigation equipment status	Exog. Acft	Comm. system status change	17.7.2 17.7.4
			Comm. system status change index	17.7.3

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.7.1 (cont'd)			No change in nav. system status	END
			Navigation system status change	17.7.2 17.7.4
			Navigation system status change index	17.7.3
17.7.2	Comm. system status change	17.7.1	Standby equipment activation not required	17.7.3 17.7.4
	Navigation system status change	17.7.1		
			Standby equipment activated	17.7.3 17.7.4
17.7.3	Standby equipment activation not required	17.7.2	Affected data base item	17.7.4
	Standby equipment activated	17.7.2		
	*Comm. system status change index	17.7.1		
	*Navigation system status change index	17.7.1		
	Stored data base item	17.7.5		
17.7.4	*Affected data base item	17.7.3	New data base item	17.7.5 17.11.1 17.11.2
	Standby equipment activated	17.7.2		
	Standby equipment activation not required	17.7.2		
	Comm. system status change	17.7.1		
	Navigation system status change	17.7.1		
17.7.5	*New data base item	17.7.4	Stored data base item	1.2.2 4.2.2 4.3.1 4.4.4 5.2.2 12.1.4 13.1.5 13.2.1 13.2.2 17.7.3

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.8.1	*Ground facilities status	Acft. Exog.	No change in status of ground facilities	END
			Ground facilities status change	17.8.2 17.8.4
			Status change index	17.8.3
17.8.2	*Ground facilities status change	17.8.1	Standby equipment activation not required	17.8.3 17.8.4
			Standby equipment activated	17.8.3 17.8.4
17.8.3	Standby equipment not required	17.8.2	Affected data base item	17.8.4
	Standby equipment activated	17.8.2		
	Stored data base item	17.8.5		
	*Ground facilities system status change index	17.8.1		
17.8.4	*Affected item	17.8.3	New data base item	17.8.5 17.11.1 17.11.2
	Standby equipment activated	17.8.2		
	Standby equipment activation not required	17.8.2		
	Ground facilities status change	17.8.1		
17.8.5	*New data base item	17.8.4	Stored data base item	1.2.2 2.1.4 3.2.1 4.2.2 4.3.1 4.4.3 9.2.1 9.3.2 16.2.6 17.8.3

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.9.1	*Pilot qualification/changes	Exog.	User class information/changes	17.9.3 17.9.5
	Aircraft capability/changes	Exog.		
	Avionics/changes	Exog.	User class information index	17.9.2
17.9.2	*User class information index	17.9.1	Affected data base item	17.9.3 17.9.4 17.9.5
	Stored user class data base item	17.9.6		
			No affected data base item	17.9.3 17.9.5
17.9.3	User class information/change	17.9.1	Purge data base item	17.9.4
			Modify data base item	17.9.5
	*Affected data base item	17.9.2	Add data base item	17.9.5
	No affected data base item	17.9.2		
17.9.4	*Purge data base item	17.9.3	Purged data	END
	Affected data base item	17.9.2		
17.9.5	User class information/class	17.9.1	New/modified data base item	17.9.6 17.11.1 17.11.2
	Affected data base item	17.9.2		
	*Modify data base item	17.9.3		
	*Add data base item	17.9.3		
	No affected data base item	17.9.2		
17.9.6	*New/modified data base item	17.9.5	Stored user class data base item	1.2.2 4.2.1 4.3.1 5.2.3 6.4.7 9.4.2 9.5.1 12.1.4 17.9.2
17.10.1	*Accepted flight plan *Closed flight plan	4.4.1 7.2.2	Active flight plan plan count	17.10.3 7.1.1

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.10.2	*Accepted flight plan	4.4.1	ETA's & ETD's by destinations and origins	17.10.3 2.2.4
	Stored data base items	17.3.6		
			Jurisdictional ETOV's	17.10.3 2.2.4
17.10.3	*ETA's and ETD's by destinations and origins	17.10.2	Stored traffic data	1.2.2 3.2.1 4.3.1 12.1.4
	*Jurisdictional ETOV's	17.10.2		
	Active flight plan count	17.10.1		17.11.1
17.11.1	Preformatted data module criteria	Exog	Data module required	17.11.2
			Data module not required	END
	Weather sequences	17.1.7		
	Severe weather phenomena	17.1.7		
	Weather forecasts	17.1.7		
	Route summaries	17.1.7		
	Weather charts	17.1.7		
	Rules and procedures	17.2.5		
	Airspace structure and juris. boundary info.	17.3.5		
	Route information	17.4.5		
	Airspace restriction	17.5.5		
	Hazards to flight	17.6.5		
	COMM-NAV system status	17.7.4		
	Ground facilities status	17.8.4		
	User class information	17.9.5		
	Stored traffic data	17.10.3		
	*Description of NOTAM requirements	15.2.6		
17.11.2	*Data module required	17.11.1	Printouts (NOTAMS)	1.2.1 12.1.3 12.1.6 12.2.1
	Preformatted data module criteria	Exog.		
	Rules and procedures	17.2.5		

Table 4.17-I. Flow of Information

Function 17.0: Maintain System Capability and Status Information (Cont'd)

TASK	INPUTS		OUTPUTS	
	IDENTIFICATION	SOURCE	IDENTIFICATION	DESTIN.
17.11.2 (cont'd)	Airspace structure and juris. boundary info.	17.3.5	Voice tapes	1.2.1 12.1.3 12.1.6 12.2.1
	Route information	17.4.5		
	Airspace restriction	17.5.5		
	Hazards to flight	17.6.5	Electronic displays	1.2.1 12.1.3 12.1.6 12.2.1
	COMM-NAV system status	17.7.4		
	Ground facility status	17.8.4		
	User class information	17.9.5		
	Stored traffic data	17.10.3		
	Description of NOTAM requirements	15.2.6		
	Weather sequences	17.1.7		
	Severe weather phenomena	17.1.7		
	Weather forecasts	17.1.7		
	Route summaries	17.1.7		
	Weather charts	17.1.7		

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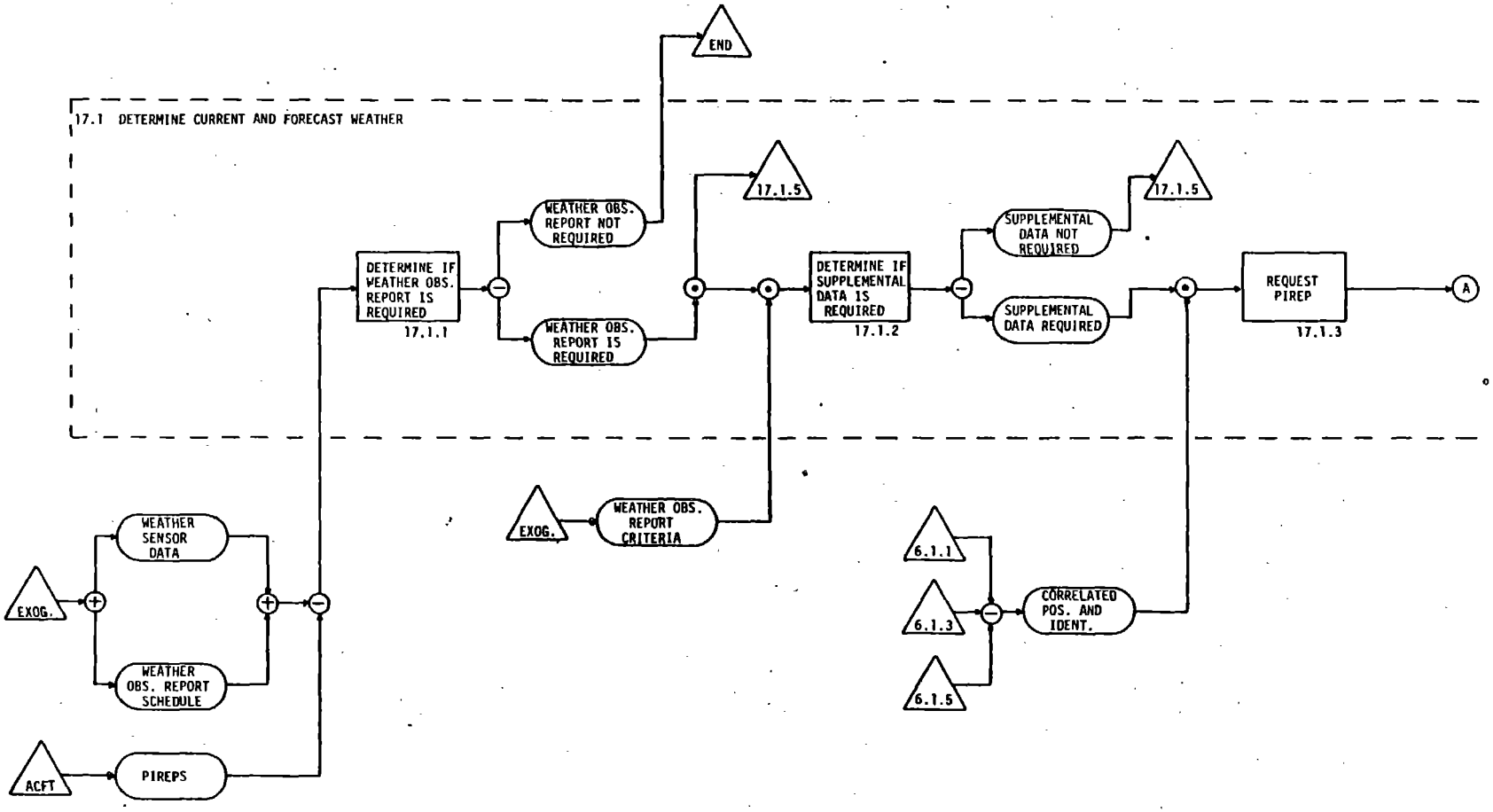

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 1 OF 10)

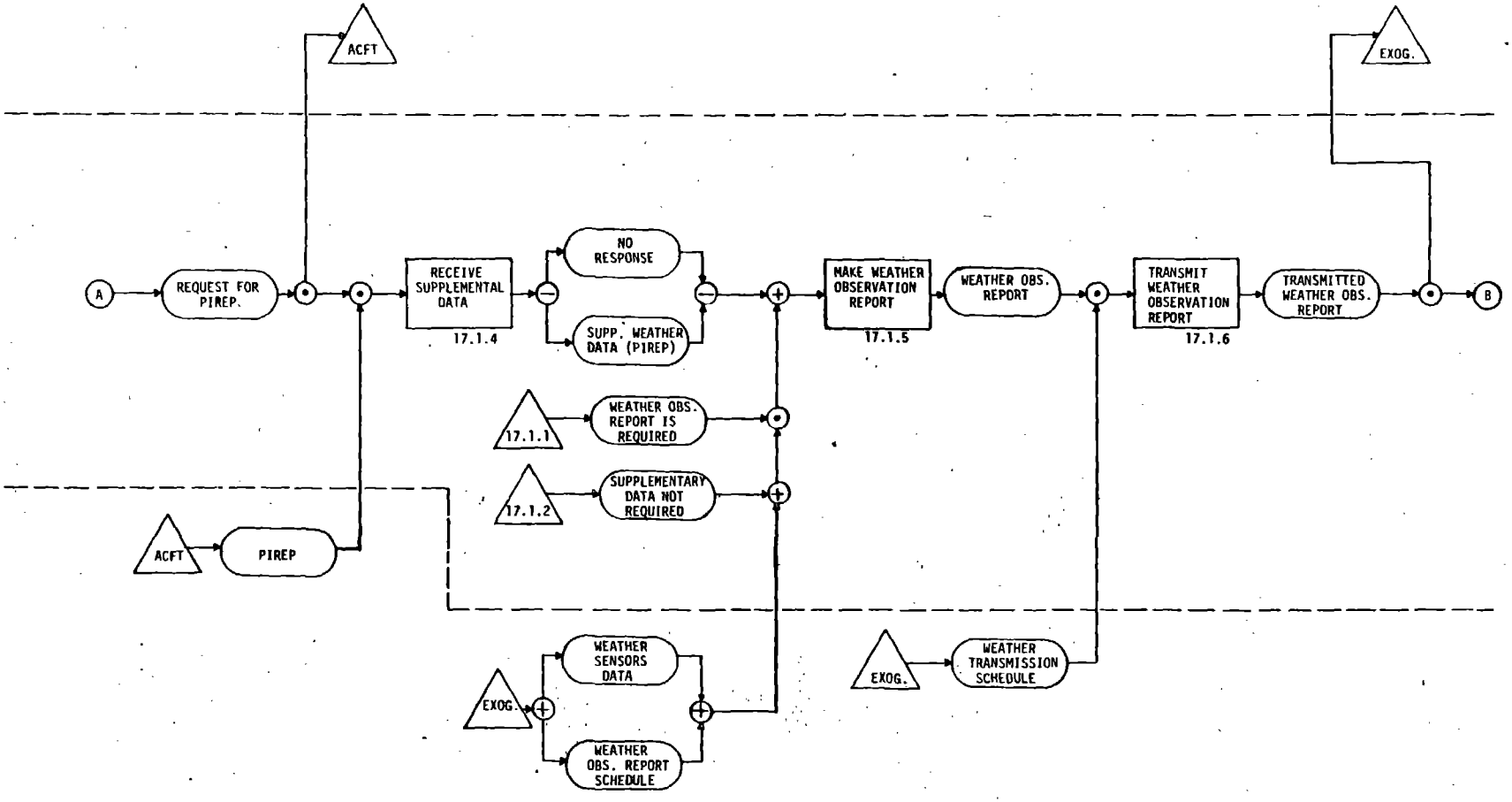

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 2 OF 10)

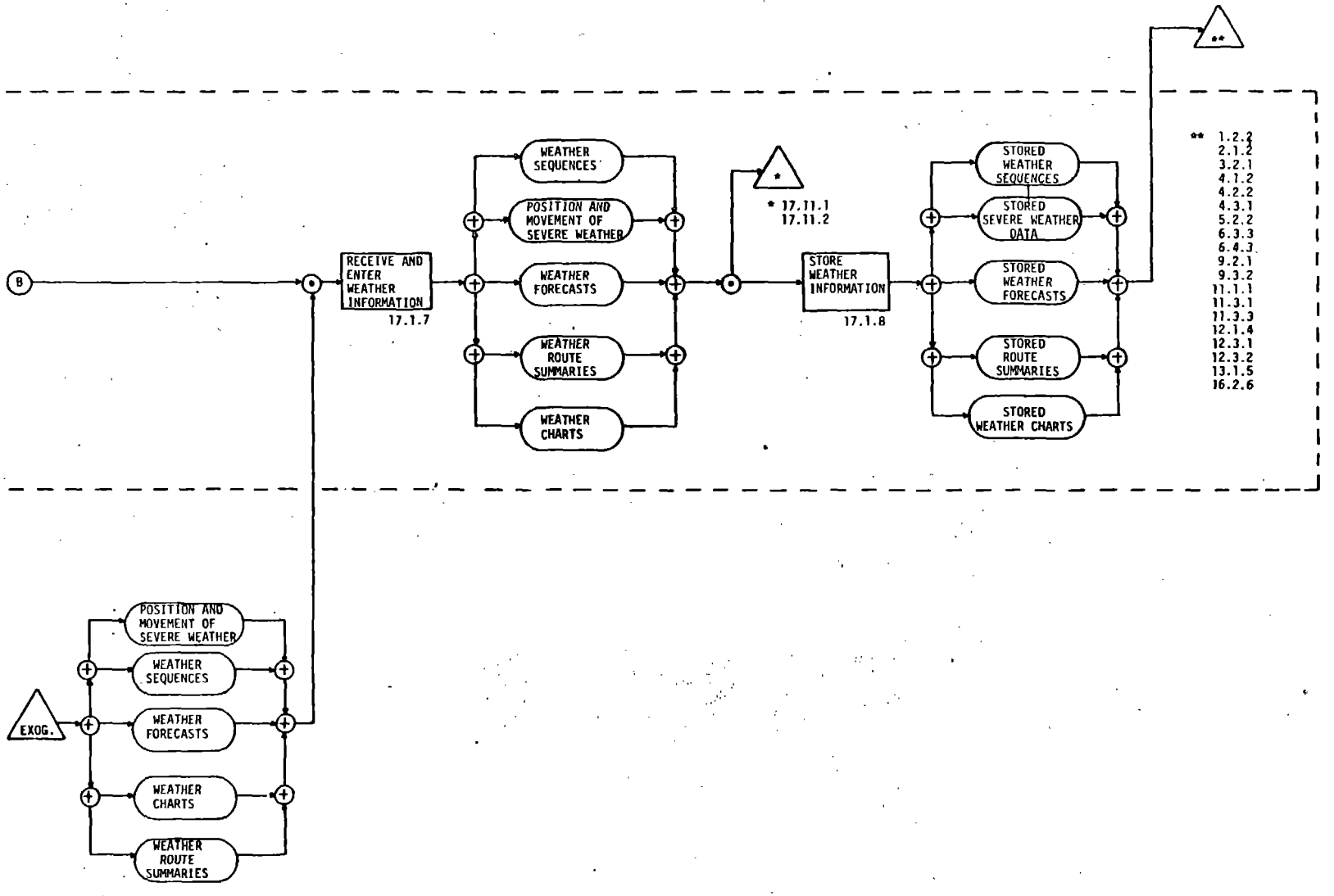

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 3 OF 10)

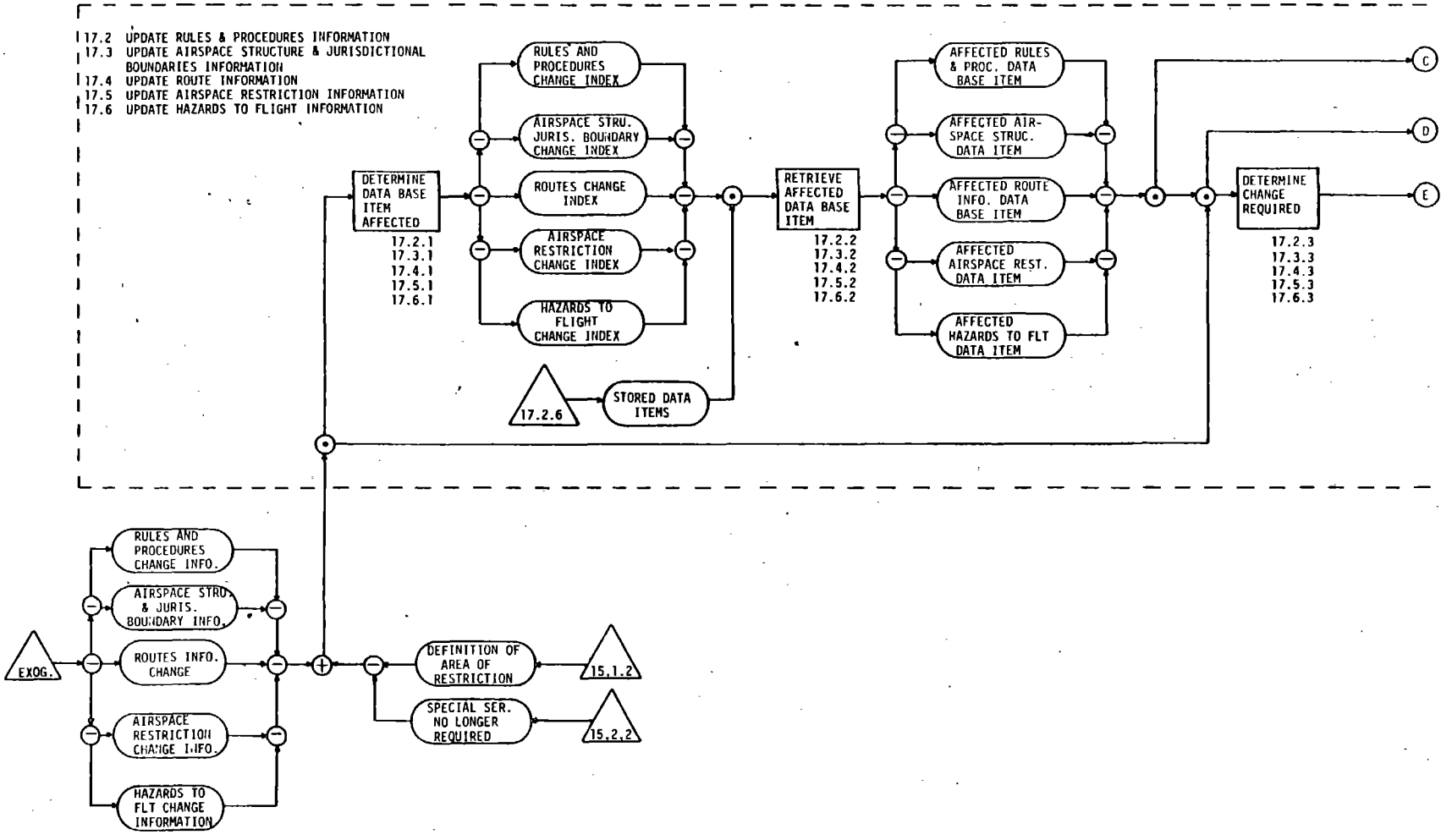

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 4 OF 10)

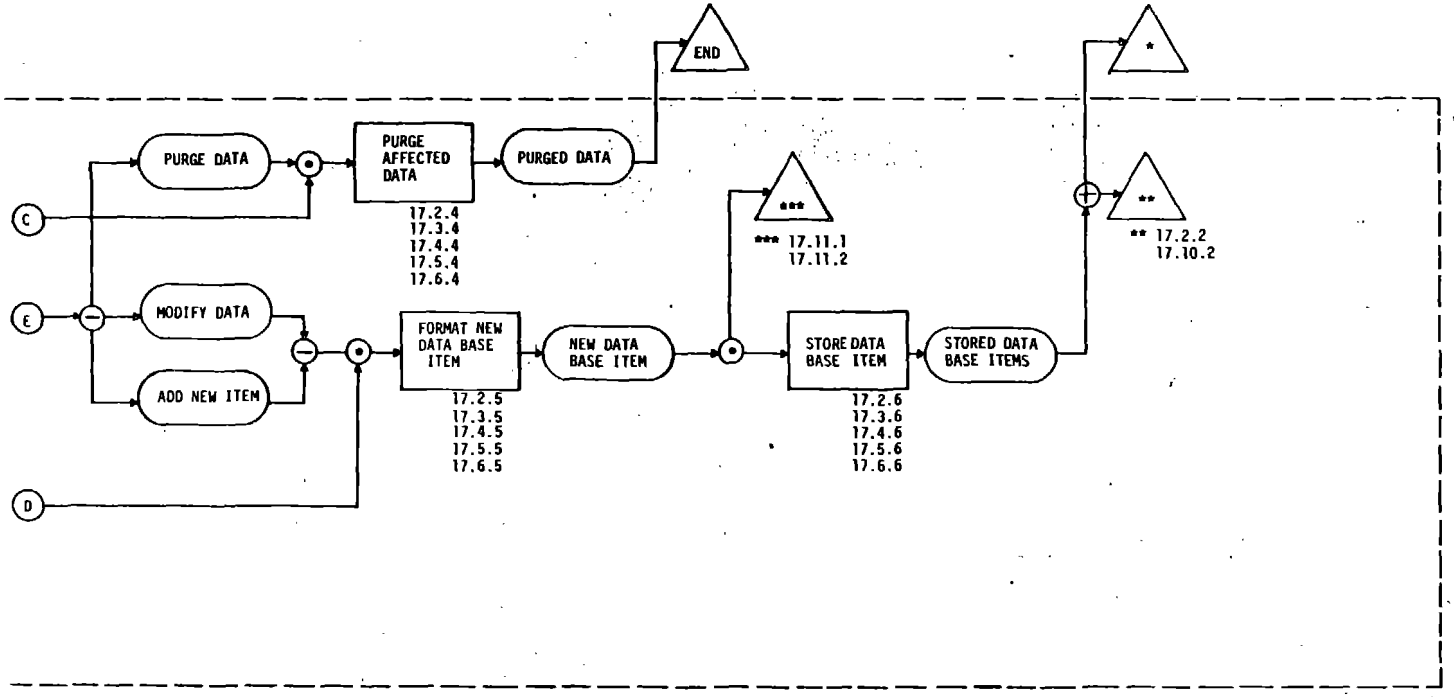

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 5 OF 10)

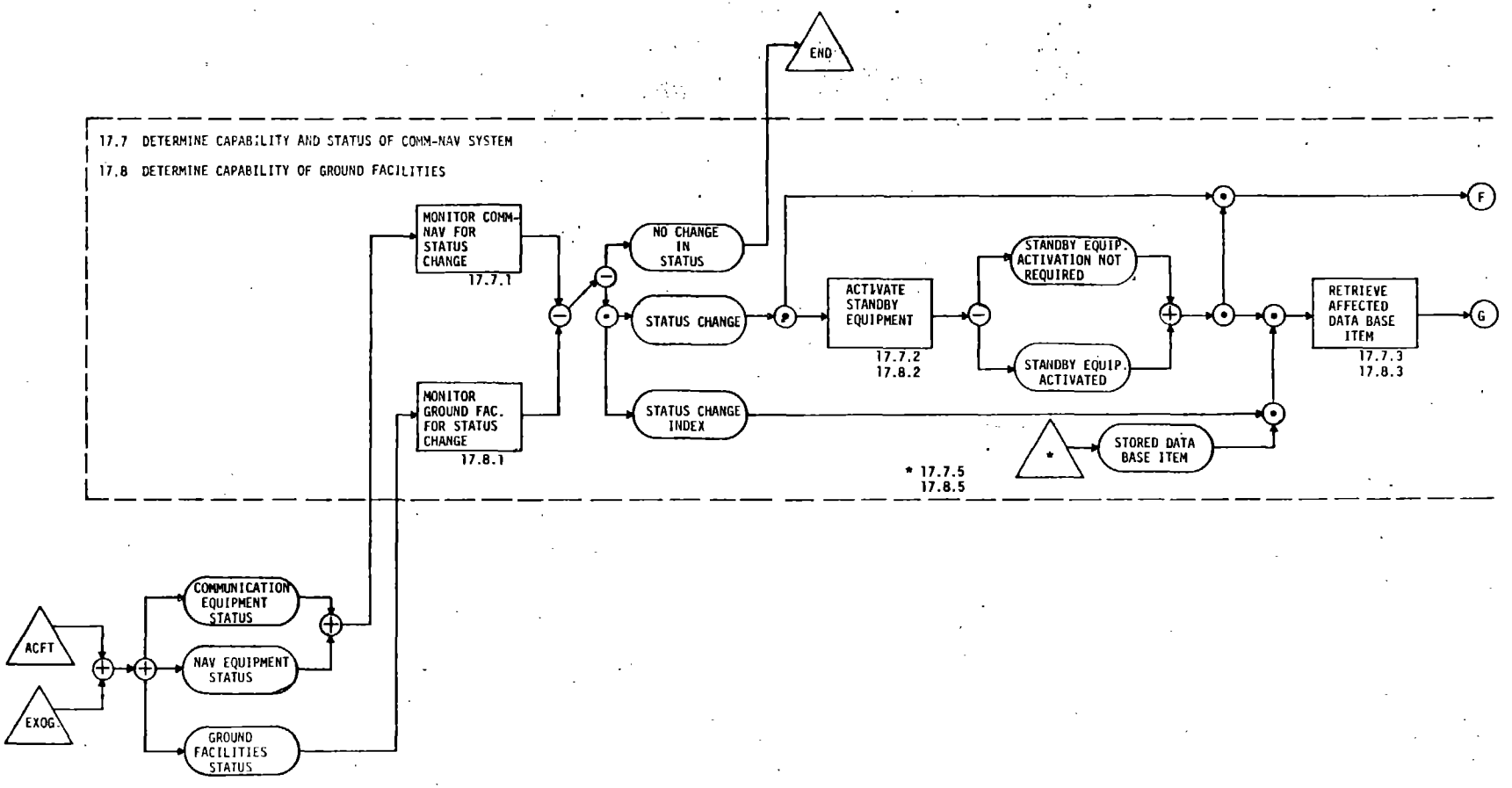

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 6 OF 10).

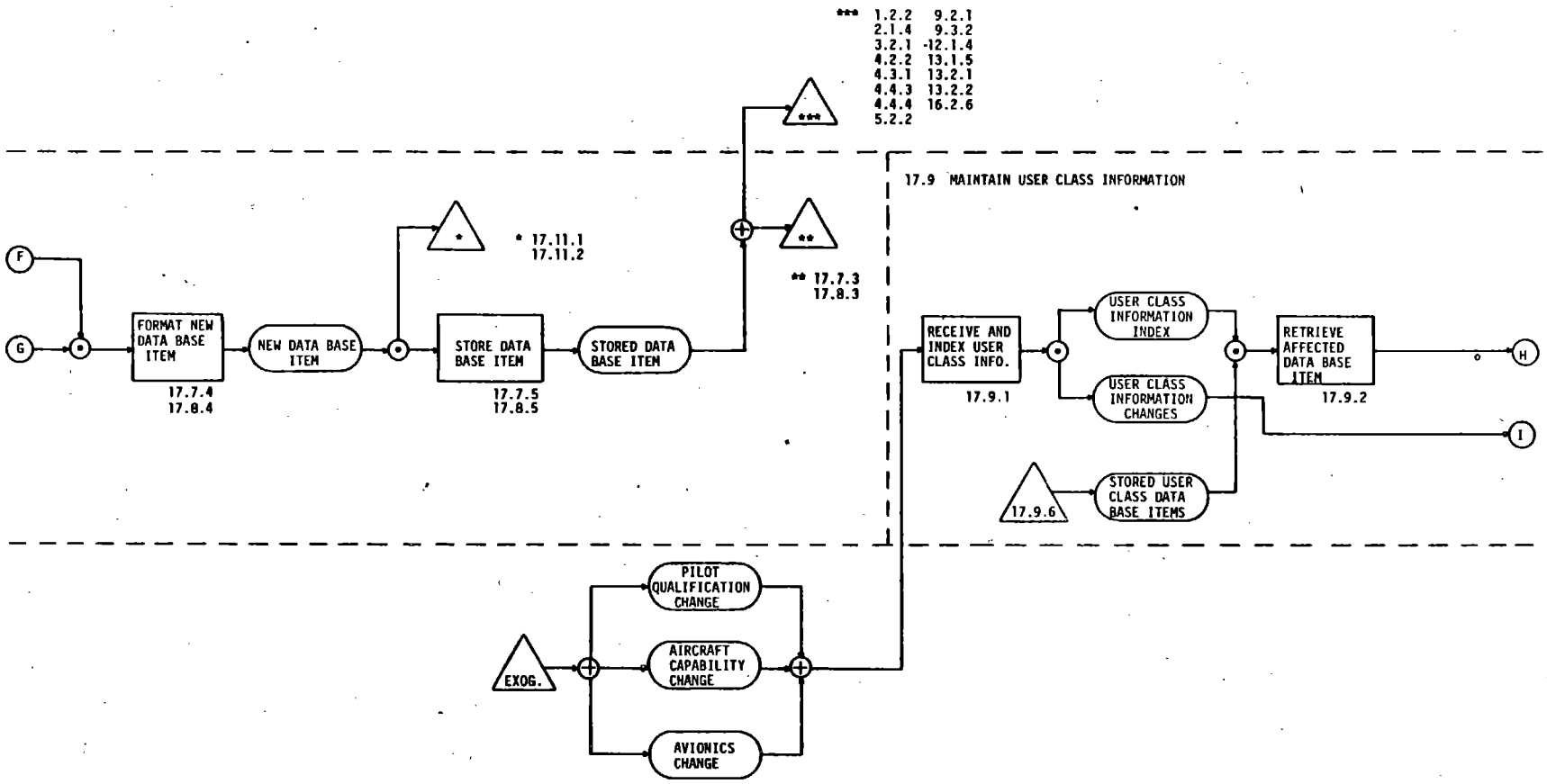

FIGURE 4.17-1: FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION
(SHEET 7 OF 10)

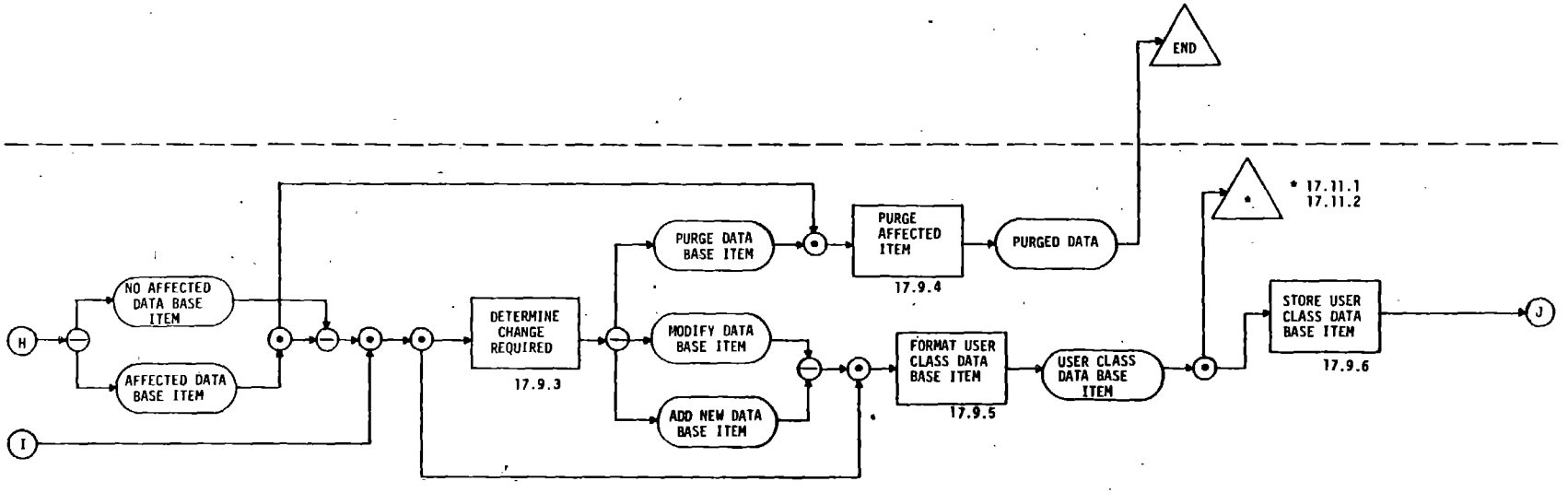

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 8 OF 10)

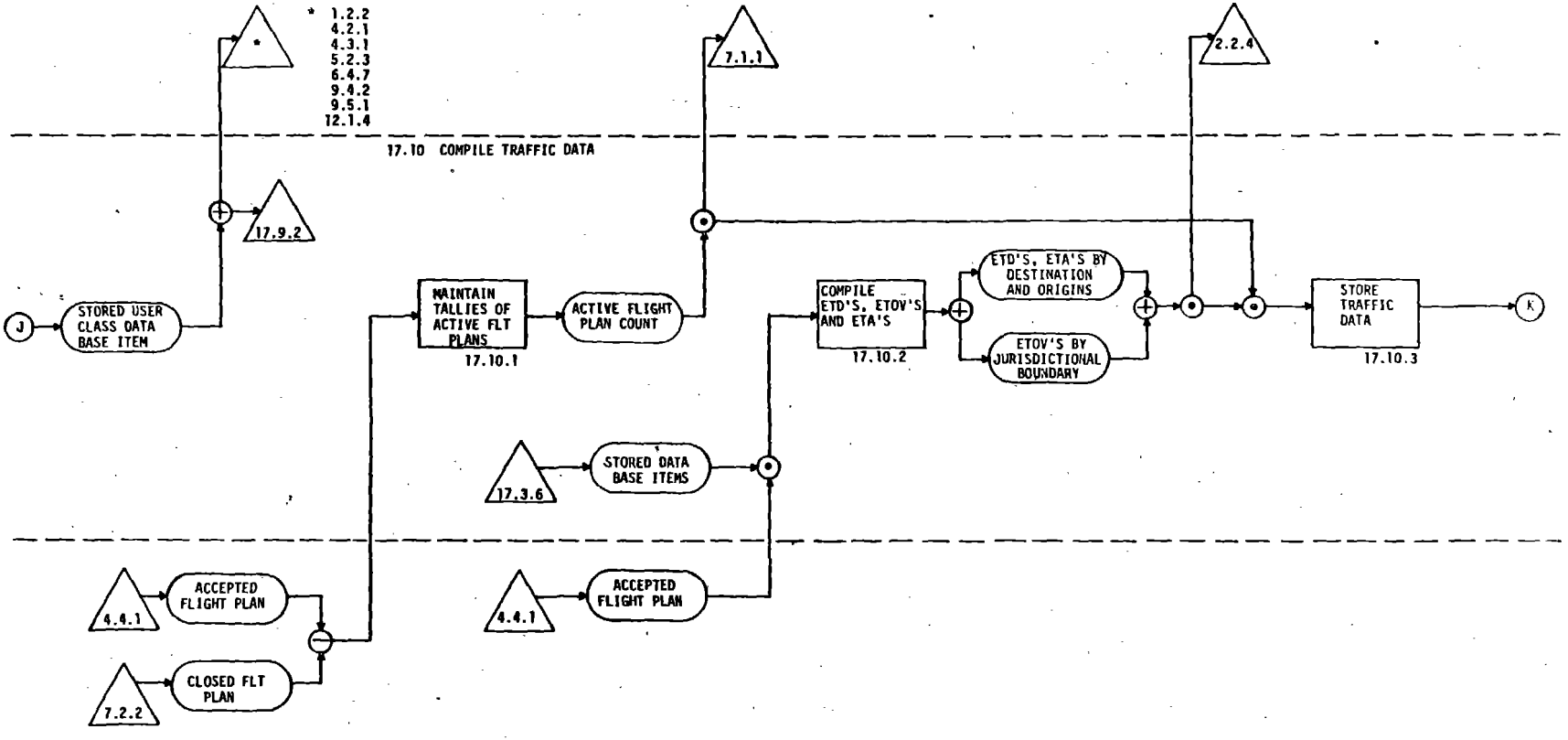

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 9 OF 10)

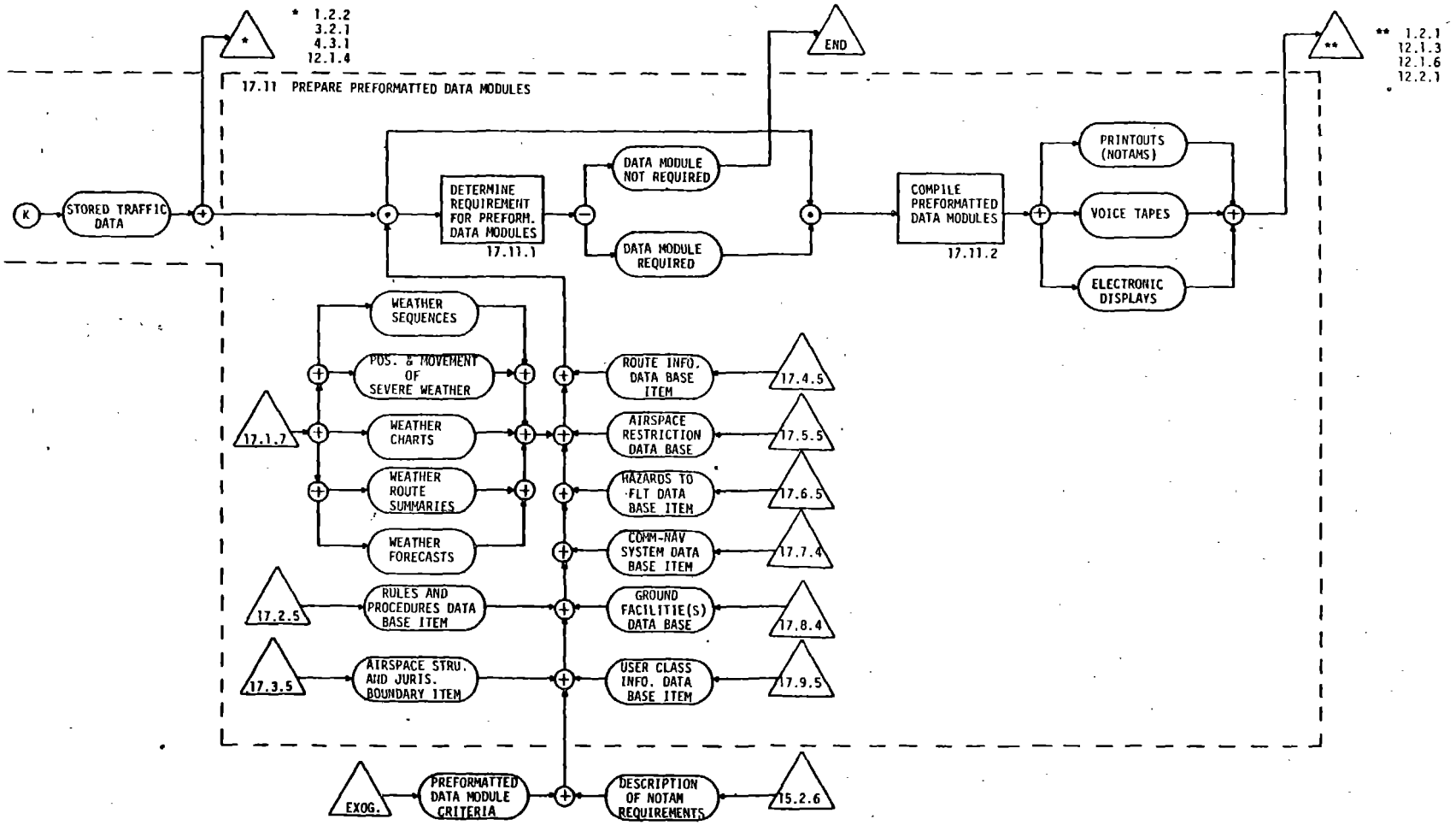

FIGURE 4.17-1. FUNCTION 17.0: MAINTAIN SYSTEM CAPABILITY AND STATUS INFORMATION (SHEET 10 OF 10)